

After this unit you should be able to answer following questions

a. Concept Questions /Short notes Questions

1. Logistics
2. Logistical Management
3. Origin or genesis of Logistics
4. Military Logistics
5. Functions of logistics
6. Importance of logistics
7. Causes of bad logistics
8. Operating Objectives
9. Life cycle support
10. Reverse logistics
11. Commodities market
12. Supply Chain Management
13. Internal integration
14. External organization
15. 'Co-operation is better than competition'
16. Total Cost Approach
17. Logistical Competency
18. Logistical Mission
19. Role of planning in logistics management
20. Logistics interface with marketing
21. Inbound logistics
22. Outbound logistics
23. Importance of 3Cs

D. Review all the past university question papers. You should be able to answer questions from the portion 'Overview of Logistics function' as described below

1. What is the meaning and concept of logistics? Define Logistical Management.
2. What is the Importance of Logistical Management?
3. What are the Operational objectives of logistics? Explain.

4. What are Logistical functions? Explain
5. Comment on Logistical Interfaces with production & marketing.

## ELEMENTS OF LOGISTICS MANAGEMENT

### WHAT IS LOGISTICS?

Logistics is concerned with getting the products and services where they are needed and when they are desired. It is difficult to accomplish any marketing or manufacturing without logistical support. It involves the integration of information, transportation, inventory, warehousing, material handling, and packaging.

The operating responsibility of logistics is the geographical repositioning of raw materials, work in process, and finished inventories where required at the lowest cost possible.

The formal definition of the word 'logistics' as per the perception of Council of Logistics Management is the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements.

Mission of logistics is providing a means by which customer satisfaction is achieved.

Art of moving, lodging and supplying troops, supplies and equipment is logistics.

Concept of logistics has moved into business to move, lodge and supply inputs and outputs.

Logistics is practiced for ages since organized activity began. Without logistics support no activity can be performed to meet defined goal. The current challenge is to perform logistics scientifically in order to optimize benefits to the organization. Logistics is a planning function of management. Logistics function is concerned with taking products and services where they are needed and when they are needed.

Logistics ensures that the required inputs [what] to a value adding process are made available, where they are needed, when they are needed and in the quantities [how much] they are needed. It also ensures that the outputs of the value adding process are made available where they are needed when they are needed and in the quantities [how much?] they are needed.

There are many ways of defining logistics but the underlying concept might be defined as follows: 'Logistics is the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost-effective fulfillment of orders.'

#### GENESIS OF MODERN LOGISTICS

Several Modern Management concepts are born or refined in the crucible of II World War. You may remember several OR techniques like Value Analysis & PERT/CPM have their origin in the II World War. Resources come under pressure in a war, like no other time and one is expected to deliver results in spite of all odds. These trying situations forced the military planners to evolve solutions to their problems. After the war these concepts traveled to business where resource crunch is usual. In business there is no enemy, but there are competitors who pose threat to the organizations survival.

Field Marshall Rommel's words that '.....before they are fought, battles are won or lost by quartermasters' speak about the importance of logistics.

There are several examples where battles are lost due to long & ineffective supply lines.

Logistics received great importance in military planning and subsequently became a very important management function in the course of last 40 years.

Logistical management includes the design and administration of systems to control the flow of material, work in process and finished inventory to support business unit strategy

## OVERVIEW OF LOGISTICS FUNCTION

Logistical History of India: India was a maritime power since about 300 BC, trading with several countries of the world bringing prosperity home. Traders of Surat brought riches to the country by extensive maritime trade. Like many of our excellent practices, logistical efficiency also faded away over a period of time.

Some important logistical feats in history:

1. Berlin Airlift - 1945: A study in logistics. When the city of Berlin was blockaded by Soviets and all supply lines were cut off, Americans planned and executed a major logistics operation to feed the city from air.

2. Indians in the Gulf countries - 1991:

In 1991, when gulf war broke out, Indian Government evacuated thousands of Indians from the gulf countries and brought them home in a massive exercise employing Indian airlines planes.

3. Operation Overlord-1945: Allies' invasion of Europe and subsequent victory in II World War.

4. American war of Independence

Keeping 12,000 soldiers armed and fed from England was a big task; British lost the American war of independence due to bad logistics.

What causes bad logistics?

- a. Infrastructure: Bad roads, inefficient railways, poor communication lines, and congestion in the ports.
- b. Taxation: e.g. Octroi
- c. Information: Inadequate information
- d. Management: Poor management decisions

IMPORTANCE OF LOGISTICS.....[you may also read Physical distribution Management: Logistical approach by K.K.Khanna - page # 8]

1. Logistics is the bed rock of trade and business.

- Without selling and or buying there can be no trade and business. Buying and or selling takes place only when goods are physically moved into and or away from the market.

- Take away logistical support trade and business will collapse

2. Leads to customer satisfaction through superior customer service.

Organizational objectives of P [Productivity], Q [Quality], C [Cost], D [Delivery], E [Employee Morale], F [Flexibility], S [Safety], H [Health], E [Environment] are set to meet customer expectations of Q, C, D.

Q, C, S, H, E are parts of must be quality that a customer expects. Logistics addresses D, F objectives which lead to customer satisfaction through superior customer service

3. Integrates logistical activities

In conventional management environment, various activities of logistics work in isolation under different management functions. Each pocket trying to sub optimize its objectives at the cost of overall organizational objectives.

Purchasing trying to purchase at minimum price at the cost of what is needed by operations. Operations produce large quantities at minimum production cost ignoring demand leading to doom inventory. Logistics function of management brings all such functions under one umbrella pulling down inter departmental barriers.

4. Competitive edge: In the fiercely competitive environment logistics provides the edge. Due to technological revolution most of the products are moving into commodity markets. In a commodity market where price is controlled by competition, where there is no product differentiation in terms of quality parameters like performance & reliability, where brands are almost irrelevant, competitive edge is that of availability of product and service in terms of time, place and quantity.

5. Logistics wins or loses wars

- British lost American war of independence due to poor logistics
  - Rommel was beaten in the desert by superior logistics of Allies
6. Supports critical functions like operations and marketing

Strong logistics support enables a company to move towards JUST IN TIME production system for survival in a highly competitive market

a) Interface with marketing

These days marketing a product is increasingly on the strength of availability and flexibility as we discussed earlier. Stronger emphasis is on the last of four Ps of marketing [product, price, promotion and place]. Logistics provides the interface between production function and marketing function. Marketing is trying to sell the product in the market place. Logistics makes the product accessible to marketing by acting as interface between the function that produces it and the function that makes the consumer buy it.

This interface is gaining importance due to following changes that are sweeping the market making many companies adopt JUST IN TIME production system.

- a. Change in the customer: demanding, knowledgeable, conscious of rights, lacking in brand loyalty, changes preferences very fast, expects very high degree of service
  - b. Many products are moving towards commodities market: product differentiation in terms of quality of performance is vanishing and brands are losing their magic. As a result of above we find that availability is an important determinant of purchasing decision.
7. Logistical costs: For individual businesses logistics expenditures are 5% to 35% of sales depending on type of business, geographical areas of operation, weight/value ratios of products and materials. This is an expensive operation. Improvement in the efficiency of logistics function yields savings as well as customer satisfaction

## WHY SHOULD WE LEARN LOGISTICS?

### HOW OR WHY DOES LOGISTICS BECOME IMPORTANT FOR MANAGEMENT STUDENTS?

1. Impact of logistics on cost of creating and delivering of product to the customer. Logistical costs can be as high as 20% to 25% depending on type of business
2. Provides competitive edge to business
3. Crucial to survival and prosperity in global trade and business
4. Many products have short life cycles
5. More & more logistics experts are going up the hierarchical ladder
6. Leads to the concept of supply chain management
7. Logistics is important in the Indian market due to the sweeping changes, which are taking place.
  - a. Competition: Internal as well as external
  - b. Shift from seller's market to buyer's market
  - c. Changing customer
  - d. Expanding business, growing exports
  - e. Corporate Management's Shift towards modern management concepts like Lean management, Just In Time, Total Quality Management etc.,

## IMPORTANCE OF LOGISTICS MANAGEMENT IN INDIA

[Explain the growing importance of logistics management in India in today's context.....Q4 2001]

- I. Liberalization and opening our door to competition
- II. Global business has long supply & distribution lines
- III. Changing Indian customer, aware, demanding and less brand loyal
- IV. Competition ensures that product differentiation in terms of quality is difficult
- V. Product life cycles are shrinking
- VI. Our markets are shifting from sellers' to buyers'
- VII. Many consumer products are moving into commodities market

- VIII. India is a large country. Large distances separate production and consumption centers. Essential commodities have to travel from Food Corporation warehouses to consumers through PDS.
- IX. Logistics performance has not been impressive
- X. Fruits and vegetables are grown at various places but do not enjoy access to market

#### WHAT ARE THE OPERATIONAL OBJECTIVES OF LOGISTICS?

[sh. note Oct'03] concept Oct'03

##### 1. Rapid response

F-flexibility objective of an organization: Some companies measure this as response time to customer's order. On an average how much time do we need to fulfill one particular type of customer's order in a year? This is a measure of Rapid response

Logistics should ensure that the supplier is able to respond to the change in the demand very fast. Entire production should change from traditional push system to pull system to facilitate rapid response. Instead of stocking the goods and supplying on demand, orders are executed on shipment-to-shipment basis.

Information Technology plays an important role here as an enabler. IT helps management in producing and delivering goods when the consumer needs them.

This results into reduction of inventory and exposes all operational deficiencies.

Now the management resolves these deficiencies and slashes down costs.

[Concept of SMED and KANBAN as practiced by JIT companies in Japan or elsewhere]

##### 2. Minimum variance

D-delivery objective of an organization, this can be measured as 'On Time Delivery' or OTD. If 100 deliveries are made in a month/quarter/year how many reached as per the commitment made to the customer? This percentage is OTD.

Any event that disrupts a system is variance. Logistics operations are disrupted by events like delays due to obstacles in information flow, traffic snarls, acts of god, wrong dispatches, damage in transit. Traditional approach is to keep safety



stocks and transport the goods by high cost mode. The cost of this approach is huge. Logistics is expected to minimize these events, thereby minimize and improve on OTD

### 3. Minimum inventory

This is component of cost objective of a company. Inventory is associated with a huge baggage of costs. It is termed as a necessary evil. Objective of minimum inventory is measured as Inventory Turns or Inventory Turnover Ratio.

Americans call this measure as turn velocity. Logistics management increases these turns without sacrificing customer satisfaction. Higher turns ensure effective utilization of assets devoted to stock. [Concept of single piece flow as practiced by JIT companies in Japan or elsewhere]. Logistical management should keep the overall well being of a company in view and fix a minimum inventory level without trying to minimize the inventory level as an isolated objective

### 4. Movement consolidation

Transportation is the biggest contributor to logistics cost. Transportation cost depends on product type, size, weight, distance to be transported etc. for transporting small shipments just in time [reduction in inventory costs] expensive transport modes are used which again tend to hike the costs. Movement consolidation is planning several such small shipments together [of different types of shipments] by integrating interests of several players in the supply chain. Generally, large shipment size and long distances reduce transportation cost per unit. Movement consolidation shall result into reduction in transportation costs.

### 5. Quality

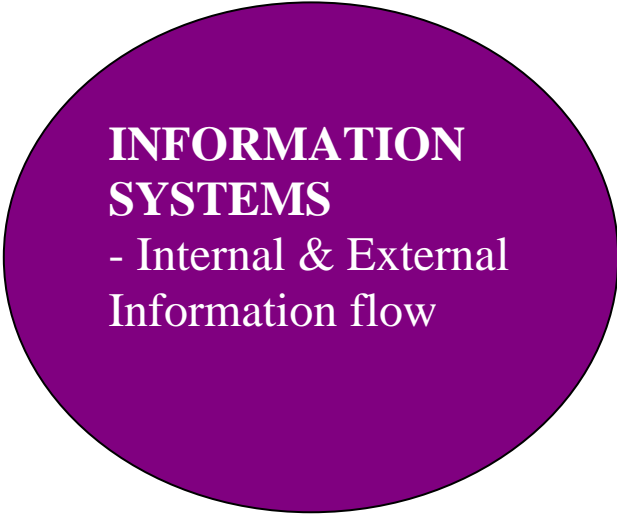
If the quality of product fails logistics will have to ship the product out of customers premises and repeat the logistics operation again. This adds to costs and customer dissatisfaction. Hence logistics should contribute to TQM initiative of management. In fact, commitment to TQM has made the managements world over wake up to the significance of logistics function. Logistics can play a

significant role in total quality improvement by improving the quality of logistics performance continuously and continually.

6. Life cycle support [cradle to cradle logistical support- produce, pack (cradle) and repack (cradle)]

Logistics function is expected to provide life cycle support to the product after sale. This includes

- a. After sales service: the service support needed by the product once it is sold during its life cycle
- b. Reverse logistics [concept Oct'03] or Product recall as a result of
  - Rigid quality standards [critical in case of contaminated products which can cause environmental hazard]
  - Transit damage [leaking containers containing hazardous material]
  - Product expiration dating
  - Rigid laws prohibiting unscientific disposal of items associated with product [packaging]
  - Rigid laws making recycling mandatory
  - Erroneous order processing by supplier
  - Reverse logistics is an important component of logistics planning



**INFORMATION  
SYSTEMS**  
- Internal & External  
Information flow



**NETWORK**



## TRANSPORTATION

- Water, Road, Rail,  
Pipeline & Air

## INVENTORY

- When to order?  
How much to  
order? Just In  
Time

LOGISTICAL FUNCTIONS [components of logistics or elements of logistics]

[Functions of Logistics...short notes 2001]

### 1. Information management

Management is appreciating importance of information as an element of logistics of late, now. The role of information is vital in order processing. Quality of information is critical as error in composition of information requirement creates potential disturbance in the supply chain. Incorrect order processing due to erroneous information will result into product recall and reshipment if the sales opportunity still exists.

Faster and quality information flow from customer to processor results into cost effective logistics. Forecasting and order management are two areas of logistical work dependent on information.

Forecasting is an effort to estimate future requirements to position inventory or assets devoted to inventory. As forecasting becomes unreliable in a fast changing environment, control strategies like JIT, Quick Response and Continuous Replenishment came into being. Now it is the task of the logistics function to use information technology to strengthen operation control and forecasting to the best advantage of the organization.

Leading firms typically have information systems capable of monitoring logistical performance on a real time basis giving them the capability to identify potential operational breakdowns and take corrective actions prior to customer service failure. In situations where timely corrective action is not possible, customers can be notified in advance and thereby taking the surprise out of forthcoming service failures

## 2. Inventory control

Keeping the stock levels in such a position, so that neither stock out nor stock piling takes place is Inventory control. While formulating inventory policies find out 20% of the products marketed that account for 80% of the profit.

## 3. Transportation

Transportation is the most visible of all elements of logistics and high contributor to logistics expenditure. Costs of transportation are mainly as follows

- a. Movement costs: money paid for moving material across geographical terrain
- b. Preservation costs: money spent on preserving the material during transit
- c. Cost of idle asset: inventory is unavailable for conversion during transit. This results into costs for organization
- d. Administration costs: money spent on administration

Transportation is accomplished in three ways

- a. One's own fleet - private carriage

- b. Contract with specialists on long term basis - contract carriage
- c. Contract on individual shipment basis - common carriage

Expectations from transportation service are

- a. minimum cost - transportation costs are explained earlier
- b. Speed: speed of transport means the speed with which goods reach the destination.
- c. Consistency: consistency in speed is achieving the same speed over a long period of time. Consistency reflects on the reliability of carrier. Any unexpected variance can play havoc with logistics. Modern information technology has made continuous tracking of consignments possible. This takes the element of surprise out. IT has helped logistics managers to seek out ways and means to improve speed and consistency. What is becoming important is a combination of speed and consistency.

Requirement of speed depends on type of industry. In some situations speed may not be important. Then transportation service offering high speed increases cost. So logistics managers have to strike a balance between service and cost. Three important aspects of transportation are facility location, transportation cost and consistency.

Design of logistics system should consider total costs rather than elemental cost of transportation

#### 4. Warehousing

Warehousing is holding material before dispatch after it is produced. Although warehousing is conventionally considered to be a storage facility, it plays a much higher role from logistics viewpoint. It is perceived to be a switching facility rather than a storage facility. Warehouse ownership can be private, public or third party contract. Warehouse provides economic and service benefits to the logistical system.

Economic benefits are Movement Consolidation, Break-bulk, Cross-dock, Processing/Postponement & stock piling.

Service benefits are spot stocking, assortment, mixing & production support

## 5. Material handling

Material handling covers receiving, moving, storing, dispatching activities. It has an impact on cost [capital as well as running], quality and safety. One of the principles of material handling is minimum movement. Commonly used material handling equipment are forklifts, EOT Cranes, hoists, pulley blocks, trolleys, railroad cars, conveyers, ropes and slings etc.

## 6. Packaging

Packaging is done to make handling and transporting cost effective. It protects the product in transit and handling. Packing is expected to facilitate lifting and moving by providing easy access to forks or hooks. Packing is also expected to display universal symbols and other instructions for handling. Eg. Pallets and containers, wooden boxes, wrapping etc.

Types of packaging: consumer packaging and industrial packaging

Consumer packaging - There is no focus on logistics. Importance is given to marketing appeal and packaging the finished product.

Industrial packaging - importance is given to logistics considerations handling and moving. Individual parts are packed in cartons or bags and grouped together as master cartons. Master cartons are grouped into units for handling. This concept leads to unitization and subsequently to containerization.

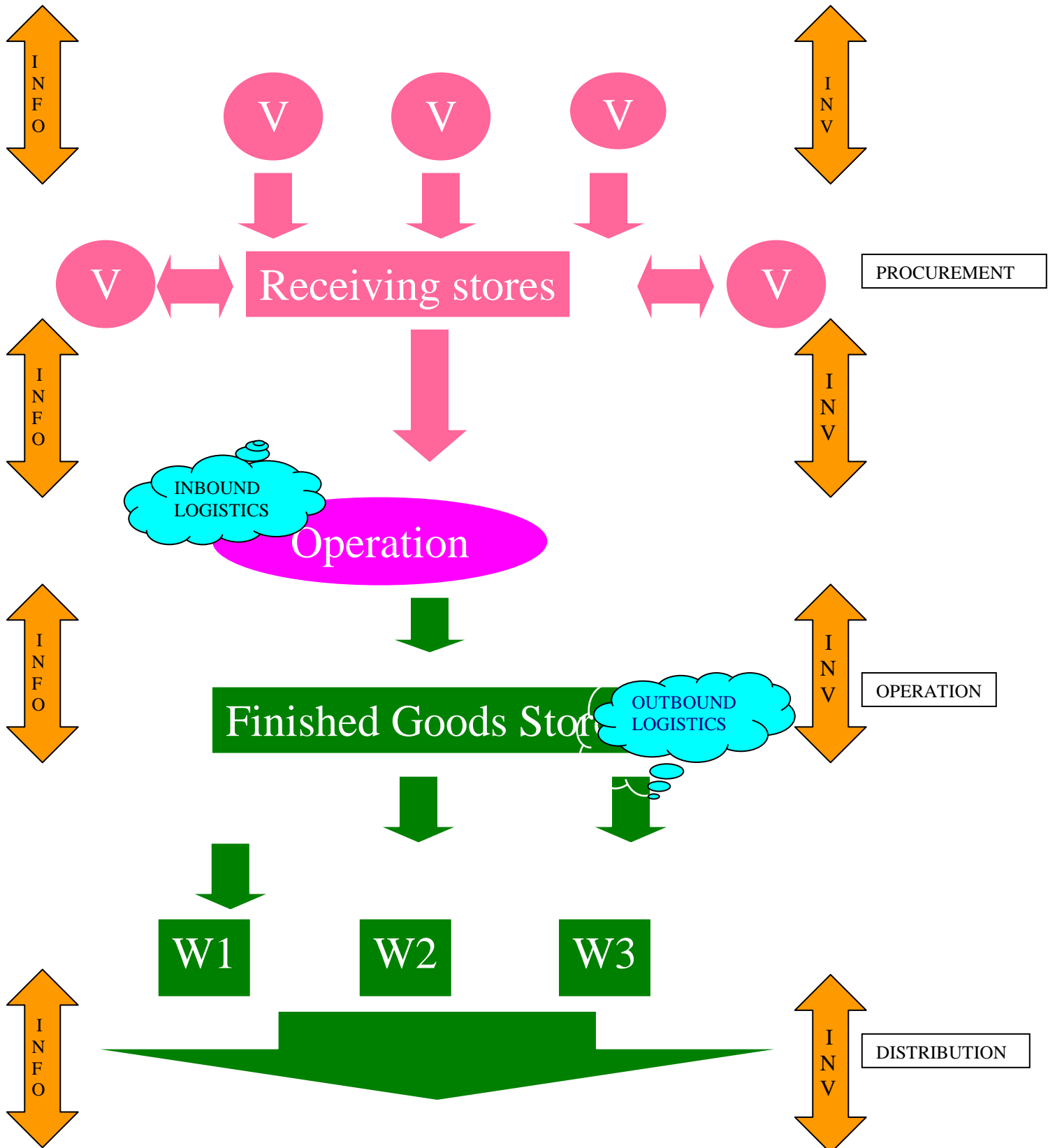
### SOME IMPORTANT CONCEPTS

1. Logistics Management and Supply Chain Management.....Development of Logistics and Supply Chain Management Concept[Logistics and Supply Chain Management by G.Raghuram, N.Rangaraj. Page #15, The Management of Business Logistics by Coyle, Bardi, Langlely Page # 13 ]

a. 1950 - 1960: Importance of examining costs and benefits in physically moving the goods to customers came into focus in post war 1950s. We have seen earlier that concept of logistics was born in the crucible of warfare and came into business after the end of II world war. Idea of total system cost emerged during this period. Analyses of trade off situations between costs of several activities, selection of modes of transport keeping total system cost in mind are fallout of this concept. It can be understood that selection of water as a mode

of transport gives low transportation cost that will result into high transit inventory adversely affecting total system cost.

Initially outbound logistics was in focus as value of the finished goods inventory is high.





A new management function called Physical Distribution Management emerged integrating various activities on the outbound side like transportation, warehousing, packaging, customer service etc.

Advent of electronic era of 1960s made information a strong component of physical distribution management. Inbound logistics was still considered to be a concern of vendors and did not receive the attention of management.

b. In 1970s strengthened by IT, physical distribution management started looking into some aspects of financial management subsystems. Monitoring and planning for efficient completion of cash cycle became attached to physical distribution management. Around the same time importance of inbound logistics was appreciated. c. In 1980s physical distribution management function came to be called logistics management encompassing inbound and outbound logistics.

During this time this function started looking closely into logistical operations adopting modern concepts like TQM & TPM to logistical operations.

d. 1990: This concept expanded, all up stream and down stream organizations and activities were brought closer for mutual cooperation in order to gain benefits of QCD. This idea of external integration is Supply Chain Management.

Definition: the management of upstream and down stream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole. Supply Chain Management looks beyond the confines of organizations to deliver value to the end user at minimum cost. Supply chain is



visualized as a pipeline through which products from raw materials stage to the end user. Supply Chain Management is ensuring that this flow is smooth and quick. Henry Ford visualized the importance of this flow in early 1990s [L/M, Bowersox - page 88] and expanded his business to cover raw materials, their deposits, forests, plantations and even transportation activities like shipping lines. His business interests extended beyond the frontiers. This diverse expanse of business gave him final control on the supply chain but became nonviable due to labor problems and unwieldy bureaucracy. He realized that smaller independent organizations were more efficient and cost effective in delivering value and shifted his focus to a network of competent dealers.

#### Idea of supply chain management

Supply Chain Management aims at breaking down organizational barriers

a] to share sales information on 'real time' basis that reduces inventories and need for safety stocks. This is called supply chain compression resulting into inventory reduction and larger inventory turns. Dell Computers considered to be leaders in computers business have recorded 50 inventory turns in 1997, IV Q, whereas Compaq could manage only 10 turns.

b] Smoothen the flow of information both ways [orders reaching the suppliers, and products reaching the that results into reduced delivery time or reduction of lead-time resulting into shortened cash-flow cycle

Ref fig.6

particulars	Logistics management	Supply chain management
1. Scope	Inbound logistics, in process inventory [movement from one plant to another], outbound logistics	All players in the supply chain from raw material source to finished product consumer, vendors, their vendors, supplier organization[shipper],

		Warehouses, service providers, customers, their customers
2. How this is created in business?	By internal integration of logistics functions handled by various management functions within organization	By external integration of roles of various players in the supply chain.
2. Main objective	Logistics cost reduction by integrating resources across the pipeline	Supply chain profitability by value creation.
3. Definition	Logistics is the process of strategically managing procurement and storage of material , part and finished inventory [and related information flow] through organization and its marketing channels in such a way that current and future profits are maximized through cost effective fulfillment of order	Management of upstream and down stream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole.
4. Origin	A very old concept in military planning.	As a logical extension of logistics management
5. Focus	L/M tries to take the product to the consumer at minimum logistical cost. Hence it is supply driven.	SCM focuses on value creation in the supply chain. Hence this is customer focused or demand driven.

2. Business functions of logistics management .....[physical distribution management: logistical approach by K.K.Khanna - page # 13]

As discussed earlier logistics is a concept of military planners. But now it has found its way into business.

I] Business logistics is planning, implementing and controlling efficient & effective flow and storage of goods, efficient & effective flow services, and related information from point of origin to point of use or consumption in order to meet customer requirements.

a. Food and agricultural products: We are familiar with warehouses owned by Food Corporation of India. The government in these warehouses stores huge quantities of procured food grains. These stocks are subsequently moved to outlets of Public Distribution System. This is a logistical operation by Govt. of India in Agricultural Products Sector

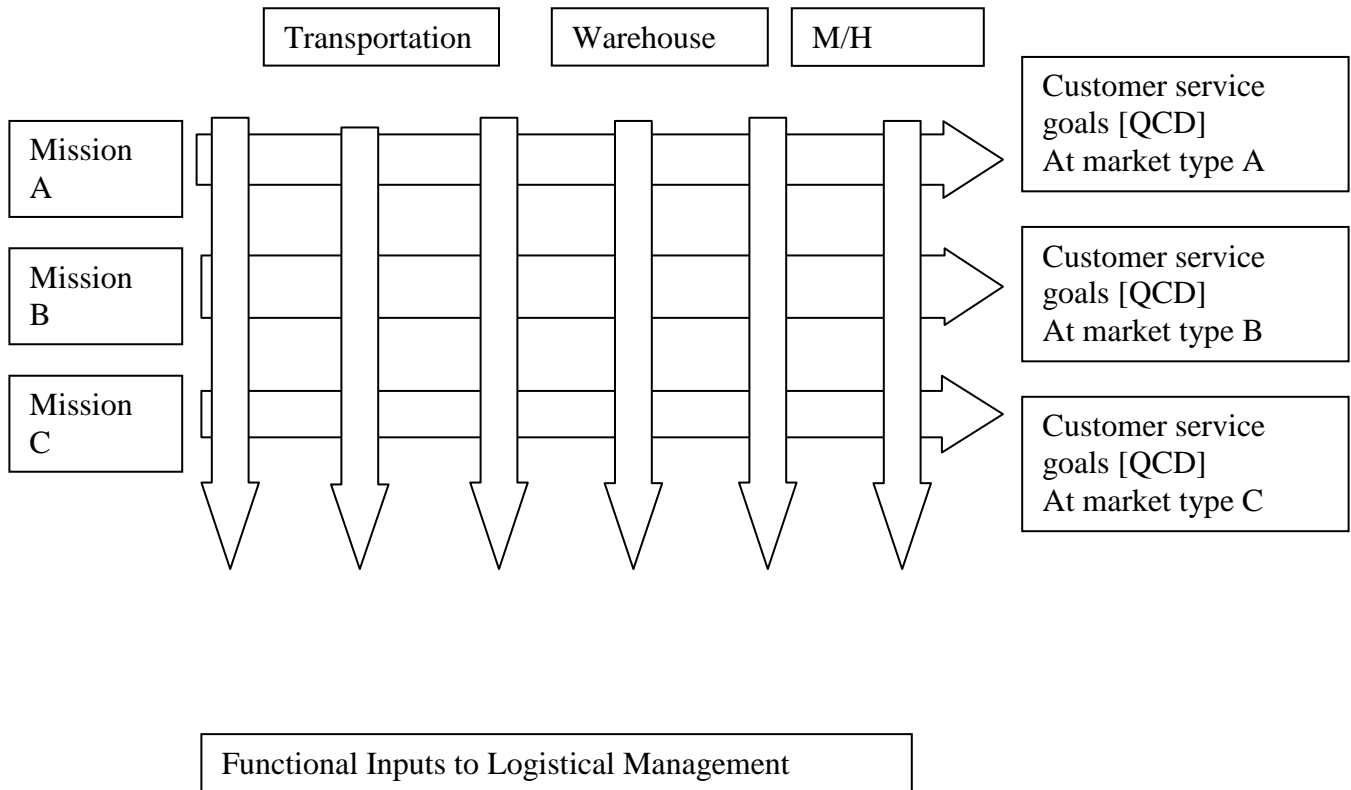
b. Raw materials and finished engineering, chemical, pharmaceutical goods.

c. Consumer durable goods: Logistical Management is receiving attention in industry as many consumer durable products are moving into commodities market.

II] Business logistics plays the role of facilitator for trade and business. It makes business happen.

3. Logistical mission.....[Logistics and Supply Chain Management by Martin Christopher, Page # 13, Logistics Management by Bowersox Page #9]

Mission of logistics is to achieve business objectives by delivering desired quality of service at the lowest total cost. This is nothing other than delivering QCD expectations of the customer by planning logistical operations at minimum cost. This can also be called creating customer value at minimum cost. The illustration below shows that



logistical mission cuts across functional lines to achieve business objectives at minimum cost.

Logistical mission is a set of goals to be achieved at a particular type of market for a particular type of product. Naturally this is responsive to competition.

Hence logistical mission is to achieve above goals at minimum system cost. Focus

is on mission rather than on isolated functions. Mission of logistics is providing a means by which customer satisfaction is achieved.

#### 4. Role of planning in logistics management

- Role of planning is central to logistics management
- Mission of logistics management is to plan and coordinate all those activities necessary to achieve desired levels of service and quality at lowest possible cost.
- Logistics is fundamentally a planning concept that seeks to create a frame work through which needs of the market place can be translated into a manufacturing strategy and plan
- Logistics makes one plan, integrating various resources of the organization that replaces traditional concept of planning in pockets

#### 5. Logistics interface with marketing.....[Logistics and Supply Chain Management by Martin Christopher, Page # 37,]

Interface is a common wall or surface between two objects, concepts or functions. It can also be common area/areas of performance or interest. Outbound logistics plays an important role in selling the product of the company as it moves the product through the distribution system to the customer. Hence it is called the other half of marketing. In several instances making the product available at the right time at the right place itself is the key to successful selling. A student of management very well knows four Ps of marketing. We have already seen the role of logistics as far as 'Place' is concerned. It is quite interesting to see the interface with respect to other Ps as well.

**Price:** Logistics enables marketing to quote a competitive price by providing discount opportunities on account of Transportation cost savings. Logistics Manager can plan the size of the consignment conforming to the most economical schedules published by transportation service providers to save transportation costs. If order size matches with the favored size the benefits are substantial. Logistics Management has to balance inventories to tackle anticipated price-triggered sales.

**Product:** Inputs of logistics manager are quite important as far as the size and shape of the product are concerned. Size and shape of the product can make

logistics nightmarish, thereby adding huge amount of costs. Weight/volume ratio plays very important role in deciding economics of logistics.

The story of Gillette is well known logistical circle. The low weight, unwieldy floor display proved to be a very expensive logistical operation. While consumer packaging provides sales push in a retailers shop, it can make industrial packaging difficult due to its shape and ability to protect the contents. Product and its packaging is a common area from the point of view of logistics.

Promotion: Logistics Management is required to manage inventory needed to match sales triggered by promotional activities in the market. Marketing Management & Logistics Management need to work closely in deciding promotional strategies for the product. Promotional strategies may be push or pull type. Logistical problems may be faced in either or both, but being aware takes the punch away from the blow!

Place: Marketing decision to distribute the product directly to retailers or through wholesalers has a great impact on logistical operations. Demand placed by wholesalers is more streamlined as compared to retailers. Logistical management of retailers' demand often requires time sensitive transportation methods which are expensive.

In addition to the four Ps, customer service is another area where marketing & logistical managements have to work closely to effectively beat the competition.

## 6. Inbound & outbound logistics

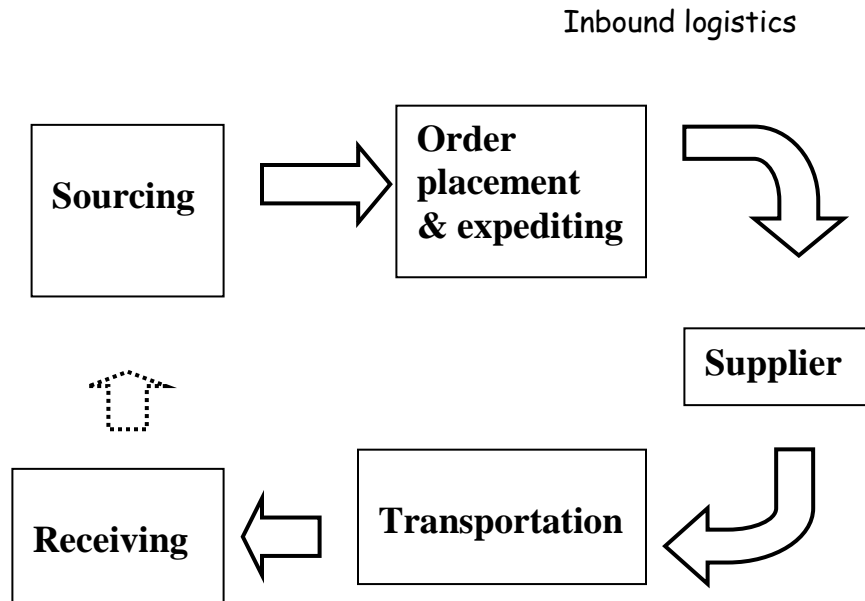
[What do you understand by inbound and outbound logistics? Explain with examples.....Q5[a] May'03]

### Inbound Logistics

Creation of value in a conversion process heavily depends on availability of inputs on time. Making available these inputs on time at point of use at minimum cost is the essence of Inbound Logistics. All the activities of a procurement performance cycle come under the scope of Inbound Logistics.

Scope of Inbound Logistics covers transportation during procurement operation, storage, handling if any and overall management of inventory of inputs. Several

activities or tasks are required to facilitate an orderly flow of materials, parts or finished inventory into a manufacturing complex. They are sourcing, order placement and expediting, transportation, receiving and storage. Overall, procurement operations are called inbound logistics. A procurement cycle is shown below. Inbound logistics have potential avenues for reducing systems costs. Delivery time, size of shipment, method of transport & value of products involved are different from those of physical distribution cycles. Normally delivery time is large as a low cost transportation mode is chosen. As the value of inventory is low size of shipment is large & transit inventory costs are low. As the price of products is lower, trade off between cost of maintaining inventory in transit and low cost transport exists to the benefit of the organization.




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### Outbound Logistics

Value added goods are to be made available in the market for customers to perceive value. Finished goods are to be distributed through the network of warehouses and supply lines to reach the consumer through retailers' shops in the market. During conversion value is added to the raw materials and as a result value of the inventory in

this case is very high unlike inputs. Now the size of shipment, modes of transport and delivery time are different as compared to inputs. Activities of distribution performance cycle come under the scope of Outbound Logistics. They are order management, transportation, warehousing, packaging, handling etc.

7. Importance of 3Cs - competitive advantage by effective logistics management  
 [Logistics and Supply Chain Management by Martin Christopher, Page # 5,]

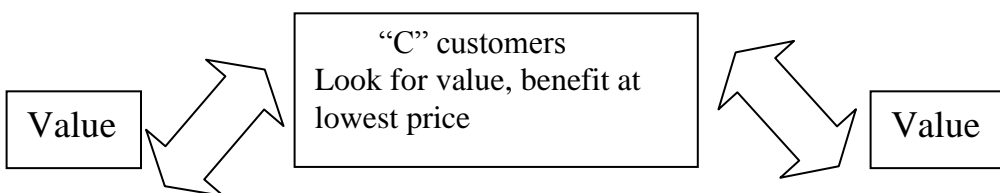
The three Cs in business are Company, Customer and Competition. All the three "C" are vital for healthy business and prosperous economy. Buying decision is always triggered by a need a consumer is experiencing due to the stress he is under. Customer is attracted by value when he is about to make a buying decision. Competitors in business continuously add value to their products in order to be ahead in the competition. Any supplier organization or Company tries to be better than the Competition by utilizing their assets efficiently and effectively.

The Supplier Company tries to differentiate her products in terms of functional quality and product cost. Competition has ensured that technology and human skills are almost same everywhere. Hence product differentiation in terms of functional quality and product cost is nearly impossible. But a great opportunity exists for the Supplier Company to differentiate her products by service and logistics cost by superior logistics.

Superior logistics gives cost advantage [productivity advantage] to the supplier company as logistical costs are reduced. Superior logistics provides value advantage as it provides superior customer service. When this happens customer sees better value in the products of supplier Company as compared to competition.

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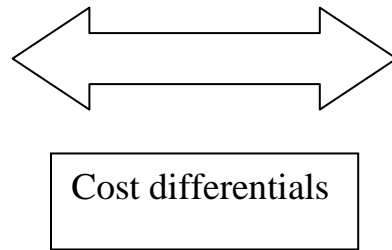
Importance of 3Cs



"C" company  
 By effective utilization of assets tries to create and offer

"C" competitor  
 By effective utilization of assets tries to create and offer value to





### Logistics overview and its implications

- a. Birth and development of logistics in post war business since 1950. [Refer our earlier notes]
  - b. External integration of supply chain and concept of Supply Chain management..... 1990
  - c. Elements of Logistical Management function
  - d. Scope of Logistical Management
  - e. Significance of logistics in Business Management, the time and place
- a. Overall goal of Logistical Management function

11. Different attributes of logistics management and need of coordination of different organizational departments with that of logistics ...[Logistics and Supply Chain Management by Martin Christopher, Page # 31, Logistics Management by Bowersox Page # 33]

Attributes of Logistics Management [what makes Logistics Management distinct from other departments?]

1. Functions of logistics are spread across various stages of value chain.
2. Provides interface between marketing and customers, marketing and operations, operations and supplier
3. Provides competitive edge to business in the current environment
4. Handles flow of information and materials.
5. Large avenue for cost reduction.

Need of coordination of different organizational departments with that of logistics

The above features show the complexity and scope of logistics management. For such a management function to function effectively various pieces of jigsaw puzzle

should fall at correct places which requires coordination of all functional departments. If we want to solve a jigsaw puzzle, we need to have the complete picture on the box. In the absence of this picture solving the puzzle becomes impossible. Overall coordination of different organizational departments can provide the complete picture. This requires integration of all functions of logistics. If a firm does not consistently satisfy time and place requirement it has nothing to sell in the market, it is simply out of business. Good logistics alone can enable organizations to do business. To enjoy full benefits of logistics, full range of functional work must be performed on an integrated basis. Excellence in each aspect of functional work is relevant only when it is viewed in terms improving overall efficiency and effectiveness of integrated logistics. This requires that the functional work of logistics be integrated to achieve business unit goals.

12. Logistical competency..... [Logistics Management by Bowersox Page # 7]

What is logistical competency?

Competency is the ability to perform a function. Logistical competency is the ability of the firm to perform logistical function effectively and efficiently.

Definition: Logistical Competency is the relative assessment of a firm's capability to provide competitively superior customer service at the lowest possible total cost. It is a strategy to provide a superior service at a total cost below industry average.

Its aim is to view how logistics can be exploited as a core competency so that fits into a firm's overall strategic positioning

How can this be achieved?

1. Strategic positioning by the company - developing logistics as core competence of the company
2. Using logistics to gain competitive advantage in creating customer value [every company's business goal]

Logistical competency can be achieved by performing logistical functions effectively. To understand logistical excellence in each aspect of functional work is relevant only when it is viewed in terms of improving overall efficiency and effectiveness of integrated logistics.

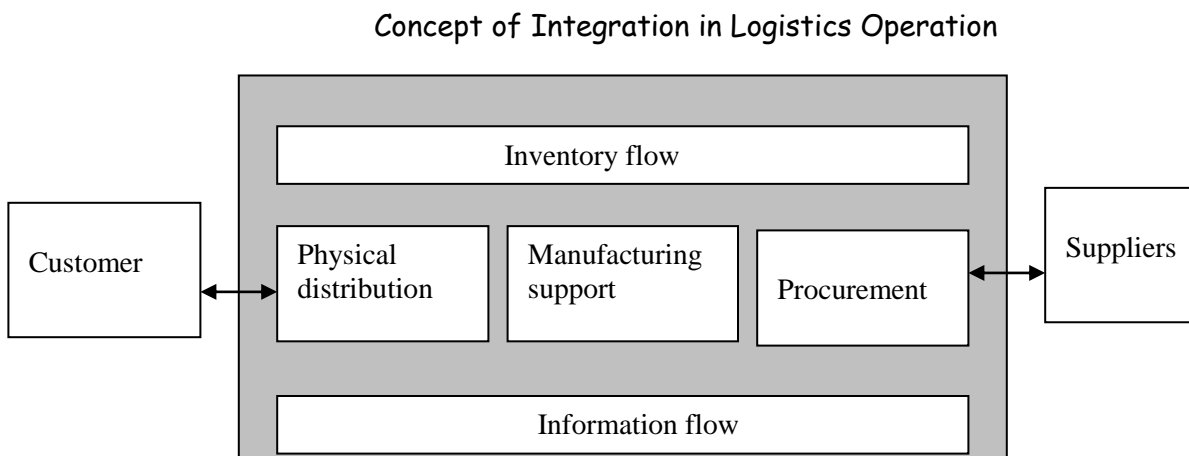
In the above process of achieving logistical competency the firm should coordinate all functions well. Network design should integrate the need of information, transportation & inventory. These elements play important roles in overall effectiveness of logistical function. A well-designed Network keeping in view the objectives of the company is primary for logistical competency.

13. Concept of Integration in Logistics Operation... [Logistics Management by Bowersox Page # 33]

What is the concept of Integration in Logistics Operation?

In order to perform various functions of logistics in coordinated fashion bringing all functions of logistics under one operational command is important. Performance of these functions in an isolated fashion is detrimental to the objectives organization. Performance in isolation loses sight of overall picture. It is like trying to solve a jigsaw puzzle without complete picture before you.

What do we integrate? Information flow, inventory flow, procurement, operations support, physical distribution.



If we view the above graphic we see all internal logistical operations in an organization. We also see their close relationship with each other and the need to perform them in an orchestrated fashion.

14. Value added role of Logistics

Different types of economic utilities like form utility, place and time utility and possession utility add value to a product. In other words make product attractive and trigger purchase.

- a) Form Utility is given by Production to a product when conversion process is held. Logistics also adds form utility when warehousing activities like mixing, assembling, processing postponement or unpacking take place.
- b) Place and Time Utility is given by logistics functions when a product is moved to a needed place on time to serve the customer
- c) Possession Utility: Marketing creates Possession Utility by promoting the product by advertising and or by any other means. But logistics finally possession by customer happen

Role of value added Logistics

