Logistics Information System (LIS)

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Logistics Information System (LIS)

- Logistics information systems are a subset of the firm's total information system, and it is directed to the particular problems of logistics decision making.

- Logistics information systems are important for achieving logistics efficiency and effectiveness.

Overview

- Converting data to information, portraying it in a manner useful for decision making, and interfacing the information with decision-assisting methods are considered to be at the heart of an information system.

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Logistics Information Systems

- Logistics is the field of study to focus on the design and implementation of the efficient flow and storage of goods from the point of origin to consumption.
- Information System is the field of study to deal with problems against the design, development, implementation, application of information system.
- Logistics Information Systems (LIS) is a new discipline that unifies Logistics and Information Systems.

There are three distinct elements that make up this system:

- The input

- The database and its associated manipulations

- and the output

Logistics: The Inputs

- The inputs are data items needed for planning and operating logistics system obtained from sources like customers, company records, and published data and company personnel.

Logistics: The Database and Its Associated Manipulations

- Management of the database involves selection of the data to be stored and retrieved, choice of the methods of analysis and choice of the basic data-processing procedures.

Logistics: The Outputs

- The outputs of a logistics information system include:
1. summary reports of cost or performance statistics,
2. status reports of inventories or order progress,
3. exception reports that compare desired performance with actual performance, and
4. reports that initiate action.
- Output can also be in the form of documents such as transportation bills of lading and freight bills.

Objectives of LIS

1. It ensures of logistics functional operations into a process pursuing customer satisfaction at the lowest total cost.

2. Information system facilitates planning and control of the logistical activities related to order fulfillment.

3. It makes the firm more competitive, by making better tactical and strategic decision for the benefits of the firm and its customer.

4. Helps provide customers information regarding product availability, order status, and delivery schedules promoting customers service.

https://www.mbaknol.com/management-information-systems/logistic-information-system-and-its-objectives/

Objectives of LIS

5. It reduces the requirements of inventory and human resources by enabling requirements planning.

6. It interfaces with marketing, financial, and manufacturing information systems and provides information to top management to help formulate strategic decisions for the whole firm.

7. The use information technology in information systems has enabled quick response to demand making forecasting redundant. This has also helped in implementing "pull" systems like just-in-time making the firm more competitive.

8. It promotes systems that link the operations of the firm, such as manufacturing and distributing, with the suppliers operations on the one hand the customer on the other.

Principles of LIS

- **Availability**
- **Accuracy**
- **Timeliness**
- **Exception based LIS**
- **Flexibility**
- **Appropriate format**

http://www.bms.co.in/explain-the-principles-of-logistics-information-system/

Availability

- Logistics information must be readily and consistently available.

- Information may be regarding order status, inventory status, etc Rapid availability is very important to respond to decisions.

- Information availability can reduce customer requirements and improve management uncertainties in operations and planning

Accuracy

- Logistics information must reflect the current status of all the activities like inventory levels, customer orders etc. E.g.: The actual level of inventories should match with the LIS reported inventory levels.

- However if there is a large difference between the actual inventories and those indicated by the information system inventory levels, buffer stock or safety stock would be required to cover up the uncertainty.

Timeliness

- The logistics information must be timely to provide quick management feedback.

- Timeliness is measured in terms of delay that takes place between the commencement and occurrence of an activity and when the activity is actually visible in the logistical information system.

- E.g.: a company may receive a certain order which a customer desires to be executed urgently.

Timeliness (Continued)

- However, the database information system of the company is not fed with the details regarding the urgency of the order for whatever reasons.

- This will cause delay in the actual execution of the order. This delay indicates ineffectiveness in the planning process.

- All this calls for timely management controls so that corrective actions can be taken to minimize loss.

- Hence timely information is very necessary to reduce uncertainty.

Exception based LIS

- Logistics operations have to deal with a large number of customers, products, suppliers, etc.

- E.g.: the status regarding inventory level for each product regarding the amount of stock available, where the stock is located, etc. must be known.

- Another activity whose status requires to be reviewed several times is the outstanding replenishment orders.

Exception based LIS (continued)

- Such activities whose status requires a continuous review are considered as exceptions in the logistical information system.

- Other examples of exception situations that LIS should highlight are a) very large orders b) products having little or no inventory c) delayed shipments d) decrease in operating productivity

Flexibility

- LIS must contain the capability to be flexible in order to meet the needs of both, the system users and the customers.

- E.g.: A particular retailer may want invoices for each of his retail stores. Another retailer may require only one invoice for all his retail stores. The LIS must be flexible to accommodate both the retailers.

Appropriate format

- Logistics reports must be appropriately formatted so that they contain the right information in the right structure and the right sequence.

- E.g.: If a company has five distribution centers, then on one computer screen, the details of inventory at all the five distribution centers should be available.

- The combined data on one screen helps to make the better decisions.

Need for LIS

- Improved communication
- Transparency in supply chain
- Improved customer satisfaction
- Cost reduction
- Improvement in efficiency
- On time delivery

LIS Design considerations

- Online facility for organising and tracking shipment
- Online order status and documentation
- Online dispatch documentation and invoice
- Auto reminder for payments
- Seamless interface with existing SCM or ERP system
- Online alert for critical information through WAP/Mobile.
- MIS reports on past data analysis, delivery history etc.