# Sustainable Human Resource Development in logistics services for ASEAN Member States

Bangkok 25 June 2014 Rev 1.0

# Logistics Planning & Analysis
# Chapter 7
# Information System in Logistics Management

# Objectives

- Able to differentiate between data and information.
- Understand the importance of information in logistics planning.
- Understand how EDI improves logistics processes.
- Understand the advantages and disadvantages of computerization of logistics functions of purchasing, inventory and transportation.

# Introduction

- Information is vital to management for decision making.
- There is an important distinction between data and information.
- Value must be created from relevant information.
- An MIS is vital to logistics.

# Importance of Information to Management

- Management is faced with an accelerating rate of change and an ever more complex environment.
- A multitude of factors may need to be considered for a given decision.
- Without relevant information no manager can function effectively.
- Management get things done through and with people, by using relevant information.

# Data and Information

- Data can be defined as groups of words, values and figures which represent things that have happened.
- Data are facts obtained by observation or research and which are recorded.
- In general terms data is processed in some way to form information.
- In essence, information is processed data.

# Definition of Information

- Information is data that have been interpreted and understood by the recipient of the message.
- It will be noted that the user not just the sender is involved in the transformation of data into information.
- It is the user who determines whether a report contains information or just processed data.
- Producers of reports and messages of all types must be aware of the user's requirements, education  and position in the organization.

# Value of Information



Costs of information production and data handling and processing

Value derived from improved actions based on the information

Figure 7-1 Information Cost-Value

# Characteristics of Relevant Information

- Timing
- Accuracy
- Detail
- Frequency

# Definition of MIS

- MIS is a system providing management at all levels in all functions with appropriate information, based on data from both internal and external sources, to enable them to make timely and effective decisions for planning, organizing, directing and controlling the activities for which they are responsible.

# Electronic Data Interchange (EDI) - Definition of EDI

- Computers in different organizations to successfully send business or information transactions from one to the other.
- In other word, EDI is the B2B exchange of business data in a structured, machine-processable format.
- Business transactions include orders, invoices, delivery advice and payment instructions.
- EDI eliminates duplicate data entry to improve the speed and accuracy of the information.
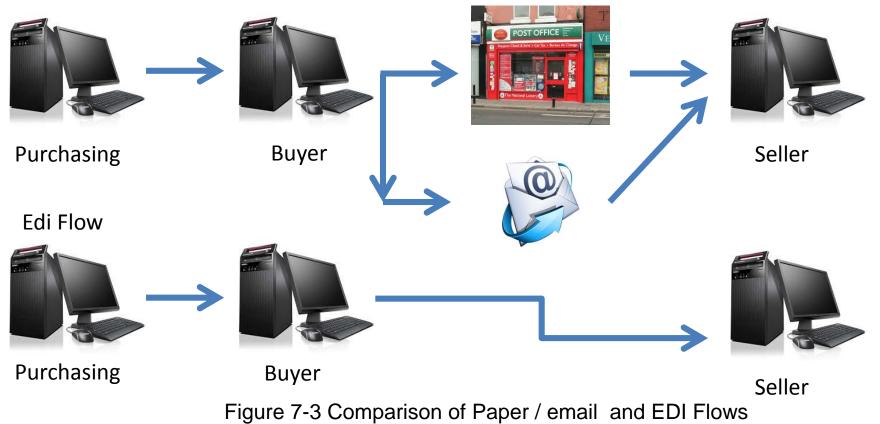
# Electronic Data Interchange (EDI)

Paper / email Flow



Purchasing                Buyer                                    Seller

Edi Flow

Purchasing                Buyer                                    Seller

Figure 7-3 Comparison of Paper / email and EDI Flows

# Electronic Data Interchange (EDI)

- The replacement of paper documents.
- Cost savings through the avoidance of data re-entry and the transmission of timely, error-free information.
- Reduction in lead times.
- Reduction in the cost of inventory.
- Better customer service.

# Impact of Information System & Technology on Logistics

- MIS / IT emphasize the more integrative approaches in which the interrelationship of functions such as purchasing, transport.
- The trend is towards the integration of processes.
- MRP and JIT etc, which require on-line data transmission between suppliers and the company for the automatic replenishment of stocks, also highlight the importance of EDI in supplies operations.

# Computerization of Purchasing

- Advantages of Computerized Purchasing
  - Reduction of routine clerical activity.
  - Provision of accurate and up-to-date information.
  - Reduction of staff and consequent costs.
  - A computer can easily cope with fluctuations in workload.
  - Reduction, of the time required to process orders.

# Computerization of Purchasing

- Disadvantages of Computerized Purchasing
    - The cost of installing a computerized purchasing and supplies system may be high.
    - Errors can be difficult to rectify, e.g. when an incorrect code number is entered.
    - A computerized system is inflexible in comparison with manual procedures.
    - Steps must be taken to protect both purchasing records and sensitive purchasing information.
    - Data line reliability.

# Computerization of Inventory

- Advantages of Computerized Inventory
  - Reduction in receiving.
  - Single data entry point.
  - No writing or typing of data.
  - Real time tracking of inventory.
  - Able to consolidate data and report the total value of inventory at any time.
  - Discrepancies such as excess and shortfall are highlighted instantaneously.

# Computerization of Inventory

- Disadvantages of Computerized Inventory
    - The cost of installing a system is high.
    - Errors can be difficult to rectify.
    - When system fails, backup may not be able to restore to the last minute transaction.

# Computerization of TMS

- Advantages of TMS
    - Vehicle visibility
    - Reduce expedited order costs.
    - Increased load consolidation.
    - Optimize carrier and mode selection.
    - Identify shipping invoice discrepancies.
    - Lower administration costs.
    - Use assets more effectively.
    - Lower contract costs.

# Computerization of TMS

- Disadvantages of TMS
  - Initial costs can be high.
  - TMS may not accurately capture the multiple variables that factor in to truckload transport costs and delivery time, often producing inaccurate total freight cost predictions.
  - Shipping decisions are made based on inaccurate cost and service information.

# Conclusion

- Logistics providers need information technological tools and internet tools to help them help their customers achieve their business objectives.
- Information systems are now an essential component of the logistics infrastructure.
- It is unthinkable to operate a logistics systems without information technology and systems.