TRANSPORTATION AND FREIGHT LOGISTICS

Information Management and Technology

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IT in Transport?

- The use of information technology to enhance management and operations in transport management.

- Examples
  - Global Positioning System (GPS)
  - Schedule Management System

Introduction

- IT use in supply chain explodes in '90s
  - IT use enables reduction of assets
  - IT use enables better management of
    - Information flows
    - Product flows
    - Cash flows
  - Cost of IT declines significantly

- Examines IT from perspectives of shipper, carrier, and receiver

Coyle, Bardi & Novack (2008) *Transportation*, Thomson
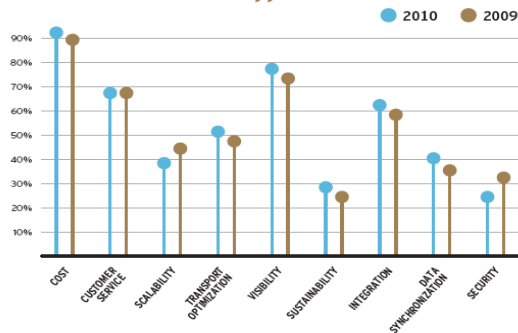

Benefits

- Forward visibility to demand
- Simulated scenarios
- Reductions in operating/transaction costs
- Expansion in market/revenue opportunities
- Enhanced collaboration throughout supply chain

Observations?

- As information flow increases, more technology is required to manage it.
- As technology advances, CSL increases
  - Shorter processing time
  - Consolidation of administration
  - Confirmation, tracking and proof of delivery
  - Easy returns management
  - Additional free services

Source: annual survey list 100, and Davidson Consultancy April de

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Which transportation and logistics challenges are most critical to shippers?

Source: 2010 Top 100 Logistics IT Providers Survey

Information Systems

- Purpose
  - Collect, organize, and portray meaningful data to decision makers
    - Challenge: vast volumes of information
  - Serve multiple organizational levels
  - Facilitate integrated decision making within firms and across supply chain
- Core components
  - Common databases, hardware, software
  - Enterprise resource planning (ERP) systems

Coyle, Bardi & Novack (2006) *Transportation*, Thomson

Information Systems cont'd

- Eg: info needed to manage transport transaction
  - Pre-transaction phase: info needed to plan carrier movement
    - Shipper needs purchase order, forecasts, POS data, equipment availability, possible pick-up times
      - Input to carrier selection decisions
    - Carrier needs bill of lading info., preferred pick-up and delivery times
    - Receiver needs advance shipment notice, scheduled delivery times

Coyle, Bardi & Novack (2006) *Transportation*, Thomson

Information Systems cont'd

- Info needs for transport transaction cont'd
  - Transaction phase
    - All parties need shipment status info
      - Carriers typically provide on exception basis
  - Post-transaction phase
    - Shipper and receiver needs depend upon terms of sale
      - Proof of delivery and carrier performance
      - Freight bill
      - Claims, if necessary
    - Carrier needs payment info, claims info

Coyle, Bardi & Novack (2006) *Transportation*, Thomson

Information Sources

- Prime sources were paper documents
  - Many transactions are now paperless

- Bill of Lading (BOL)
  - Initiates shipment, typically generated by shipper
  - Five legal purposes
    - Receipt for goods
    - Description of shipment
    - May be evidence of title to goods
    - Operating document
    - Defines terms of contract between carrier and shipper

Coyle, Bardi & Novack (2006) *Transportation*, Thomson

Information Sources cont'd

- Bill of Lading cont'd
  - Minimum information required:
    - Origin/destination of shipment
    - Carrier designation
    - Special operating instructions
    - Shipment description
    - Billing instructions
  - Two types of bills of lading
    - Straight or non-negotiable
    - Order or negotiable
      - Evidence of title to goods, process of using

Coyle, Bardi & Novack (2006) *Transportation*, Thomson

Information Sources cont'd

- Waybill
  - Operating document for railcar movement
    - Assigns car to train, contains billing info
  - Describes car's contents
  - Most are now electronic

- Manifest
  - Trucking equivalent to waybill
  - Documents weight loaded in each trailer quartile