**International Logistics: Course Introduction & Objectives**

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**Introduction to International Logistics**

- An Introduction to Logistics
- Domestic vs. International Logistics
- International vs. Global Logistics
- Globalization and the World Economy
- International Business Management
- Features of International Logistics
- Course Objectives

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**What is Logistics?**

Logistics is inventory in motion or at rest.

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**Logistics Management Defined**

That part of the supply chain involved with the planning, implementing, and controlling of the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements.

Source: Council of Logistics Management
Low cost information is being leveraged against more expensive logistics assets such as inventory, warehousing, labor, and transportation.

Logistics adds time and place utility.

What is the relationship between logistics and marketing?

<table>
<thead>
<tr>
<th>Logistics</th>
<th>Marketing</th>
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</thead>
<tbody>
<tr>
<td>Production</td>
<td>Form Utility</td>
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<tr>
<td>Place Utility</td>
<td>Possession Utility</td>
</tr>
<tr>
<td>Time Utility</td>
<td>Logistics</td>
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</tbody>
</table>

Relationship of Logistics to Marketing

Product
- Price
- Promotion

Place
- Location
- Inventory
- Transportation
- Warehousing
- Lot Quantity
- Order Processing Information

Marketing
- Product
- Place

Logistics
- Production
- Place Utility
- Time Utility
- Logistics
- Possession Utility
- Form Utility

Logistics Interfaces with Marketing

- **Price**
  - Carrier pricing
  - Matching schedules
  - Volume relationships
- **Promotion**
  - Push versus pull
  - Channel competition
- **Place**
  - Wholesale vs retail
  - Customer service
  - Forecasting
- **Product**
  - Product characteristics
  - Consumer packaging
  - Product changes

Logistics Interface with Operations

- Length of production runs
- Seasonal demand
- Supply-side interfaces
- Protective packaging
- Foreign and third party alternatives

Other Areas Which Interface with Logistics

- Services
- Human Resource Management
- Firm Infrastructure
  - Accounting
  - Quality Management
  - Planning
  - Finance

Components of Logistics Management

<table>
<thead>
<tr>
<th>Inputs into logistics</th>
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</thead>
<tbody>
<tr>
<td>Natural resources</td>
<td>Financial resources</td>
</tr>
<tr>
<td>Information resources</td>
<td>Logistics activities</td>
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</tbody>
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<tbody>
<tr>
<td>Customer service</td>
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<tr>
<td>Planning and execution of logistics activities</td>
</tr>
<tr>
<td>Order processing</td>
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<tr>
<td>Raw material handling</td>
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<tr>
<td>Customer service</td>
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<tr>
<td>Plant and warehouse site protection</td>
</tr>
<tr>
<td>Packaging</td>
</tr>
<tr>
<td>Traffic and transportation</td>
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<tr>
<td>Warehousing and storage</td>
</tr>
<tr>
<td>Salvage and scrap disposal</td>
</tr>
<tr>
<td>Efficient movement of customers</td>
</tr>
<tr>
<td>Time and place utility</td>
</tr>
<tr>
<td>Competitive advantages</td>
</tr>
</tbody>
</table>

Management actions

- Planning
- Implementation
- Control
Key Logistics Activities

- Customer service
- Demand forecasting & planning
- Inventory management
- Logistics communications
- Material handling
- Order processing
- Packaging
- Parts & service support
- Facility location: Plant & warehouse site selection
- Purchasing/Procurement
- Return goods handling
- Reverse logistics
- Traffic & transportation
- Warehousing & storage
- Production planning

Logistics Management Concepts

- The System Approach
- The Total Cost Concept
- Trade-off Analysis
- A ‘New’ Source of Competitive Advantage

The System Approach

- Thinking of the logistical system that flows from raw material to the end user
- Whether inside or outside the organization
- That system has a common goal(s): quality, speed, timing, etc.
- More relevant due to technical advances in transport and corporate information systems
- The results of those goals can be a valuable competitive advantage
Principles of the Systems Approach

Stresses a Total, Integrated Effort Toward the Accomplishment of Predetermined Objectives

- INTERACTION of Components is Emphasized
- Performance of the TOTAL SYSTEM is SINGULARLY Important
- Therefore, COMPONENTS NEED NOT OPTIMIZE Individually
- INTER-RELATIONSHIPS (Trade-offs) May Enhance or Hinder Combined Performance
- Components, Properly Linked in a Balanced System, Will Produce “SYNERGISM” (SYNERGY)

Discussion Questions

- Describe 3 levels of integration essential to the successful operation of global logistics networks.
  (functional, supply chain, geographical)
- Discuss ‘trade-off analysis’ and its use as a tool for managing the logistics activity

Total Cost Concept & Trade-off Analysis

- The Total Cost concept: Better coordinating or streamlining the logistical steps can significantly reduce costs.
- The Trade-off concept: Making changes in one part of the system to gain benefits typically involves trade-offs. Speed-Cost, timing-cost, quality-speed. But there can be win-wins: cutting out middle-men: lower cost and greater speed.

Key Trade-Offs

- Cost to Cost
- Cost to Service
Managing Trade-Offs

Trade-Off Analysis Examples

- Faster (premium) transportation versus reductions in pipeline (transit) inventories
- Make vs. buy decisions re: finished products and/or component parts
- Centralized vs. decentralized warehousing
- Adding or reducing private fleet equipment vs. outside transportation services
- Whether to increase frequency of shipments vs. carrying larger inventories
- Switching to alternative modes
- Public vs. private warehousing

More Trade-Off Analysis Examples

- Higher service (fill rates) vs. higher inventory levels
- Types - locations - No. of manufacturing plants and/or warehouses
- Inward telephone and on-line order entry costs versus reductions in order cycle time
- Holding orders for consolidation (transportation) vs. shipping ASAP to minimize inventories
- EOQ - inventory carrying costs vs. order/set-up costs
- Forward buys - avoid price increase by carrying extra inventory
- Trucking/quantity discount - savings (discount) of larger than normal vs. cost to carry extra inventory

Total Costs of a Logistics Network

- Total System Costs
- Inventory Costs
- Facilities Costs
- Stock Transfers
- Order Admin.
- Local Delivery

Number of Warehouse Facilities

Yrly. Costs
Why is it impossible to successfully adopt the logistics processes of the competition?

Logistics in the Firm: The Micro Environment

Michael Porter suggests three ways of obtaining a competitive advantage:

- Cost leadership
- Differentiation
- Focus

How does logistics contribute to the competitiveness of a firm?

Logistics - A New Source of Competitive Advantage

THEN, Competitive Advantage = Productivity Advantage (Cost Leader) OR Value Advantage (Product/Service Differentiation)

NOW, Competitive Advantage = Effective SCM i.e., Efficient Logistics (Productivity Advantage) AND Improved Service Delivery (Value Advantage)

In the current business environment, with competitors matching each others quality, features and price, logistics can be a key source of competitive advantage.

How is International Logistics Different from/Same as Domestic Logistics?
Domestic Vs. International Logistics

<table>
<thead>
<tr>
<th>Seller</th>
<th>Transportation Carrier</th>
<th>Buyer</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Bank</td>
<td>Domestic Inland Carrier</td>
<td>Foreign Bank</td>
</tr>
<tr>
<td>US Government Agencies</td>
<td>Ocean/Air Carrier</td>
<td>Foreign Government Agencies</td>
</tr>
</tbody>
</table>

Domestic Vs. International Logistics

- Lower Quality Information
- Distance
- Red tape
- Availability of Transportation Modes

From International to Global I

**Trans-national**
- Need to Coordinate Responsive National Unit in a Globally Efficient System by Simultaneously Responding to
  1. Host Country Pressures &
  2. Global Competitive Demand Management Challenge

**International**
- Domestic Companies with Foreign Appendages
- Opportunistic / Portfolio Approach to Managing Foreign Logistics Operations

From International to Global II

**Multi-national**
- Increased Realization of Importance of International Markets
- Manage Overseas Operations as Federation of Independent Companies

**Global**
- Manage Worldwide Operations As Single Entity
- Growing Concern about International Competition & Inefficiencies of Multi-national Response
- Drive For Cost Competitiveness Through Product Standardization & Centralization
## Global vs. International Logistics

### Global Logistics
- Worldwide basis
- Logistics strategies shaped by corporate design, not government requirements
- Integrated strategic sourcing, financial production and transportation strategies
- Aim to serve global markets

### International Logistics
- Country to Country (in different areas of the world)
- Logistics strategies shaped by currency, political and economic fluctuations
- Focus on different modes of international transportation
- Importing/exporting issues

## Why Firms enter International Markets

- Market Potential
- Geographic Diversification
- Excess Production Capacity and Low Cost Position
- Near end of Life-Cycle in Domestic Market
- Source of New Products and Ideas

## Features of International Logistics

### Multiple Operating Environments (Diverse Pattern Of)
- Consumer Preferences
- Distribution Channels
- Legal Frameworks
- Financial Infrastructures

### Political Demands & Risks
- Mesh Corporate Strategy With other Countries’ Industrial Development Policies → Potential For Conflict

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### What are the issues a global firm must address in designing international logistics channels?

- Multiple Operating Environments
- Political Demands & Risks
Global Competition
- Multiple Market Access & Global Scale Economies → Allows New Strategic & Competitive Options

Currency Fluctuation: Fx Risk
- Economic Performance, measured in multiple currencies → Accounting & Economic Exposure

Organizational Complexity & Diversity
- Need to Manage Complex and Diverse Demands across Distance, Time, Language & Cultural Barriers

Cross-border Requirements for Packaging, Recycling, Infrastructure, etc.
- Many developing countries have good international seaports (to get primary goods out) or airports (for national pride), but have poor internal systems (to get products to consumers)
- Some variations are on purpose: keep out foreign goods or invaders

Lower Costs + Increased Reliability and Integration

Outsourcing → Need for Different Intermediaries

Features of International Logistics

Features of International Logistics

Complex Distances & Transportation Modes
- Ocean & Air Transport more common than for domestic flows
- Shipping: 1998: 30% of U.S. exports by value, down from 40% in 1988
- Airfreight
- Governments often regulate which carriers can be used, especially for sales to the government
- Must factor in total carrying costs including delays, port storage time, warehouse inventory and exchange rate changes
- Global Operations and Product Customization (at order/shipping point or in local environment) → Complicated Logistical Systems

Examples
- Airfreight:
  - Fast, reliable and available but costly and that feasible or cost efficient for bulky cargo
  - Total volume is relatively low, but value shipped is high, especially among industrialized nations
  - Good if speed, timing, reliability, damage or perishability is an issue
### Features of International Logistics

**Examples:**
- **Shipping**
  - Liners: Regularly scheduled on established routes
  - Bulk/tramp/charter – contractual services for individual voyages on possibly irregular routes
  - Conventional ship – good for bulk or irregularly sized cargo. Time consuming to load and unload
  - Container ship: The most common of major routes. Facilitates easy loading/unloading and intermodal transport. Cannot go to every port
  - Roll-On-Roll-Off (RORO) – Ocean-going ferries. Typical for short routes to under-developed ports

### Discussion Questions

- Distinguish between logistics defined as materials management and logistics defined as physical distribution. What are the similarities/differences in each situation?
- How has the nature of competitive advantage changed over the past 30 years?
- Why is it important for managers of global firms to understand logistics?

### Discussion Questions

- Time-based competition and the global supply chain: What are some of the deficiencies in applying the international PLC theory in today’s global markets?
- Discuss some of the issues a global firm must address as they design their logistics firm
- What are the implications of increased emphasis on quick customer response and customization for the structuring of global operations and logistics networks?

### Motivation & Perspectives for International Expansion: Evolving Theory of FDI

- **International Capital Theories**
  - FDI driven by return equalization, portfolio diversification
- **Location Theories**
  - FDI driven by countries’ comparative advantage
- **Product Cycle Theory**
  - FDI driven by firms’ management of the product life cycle
    - Exploit innovations, protect markets, develop sourcing
- **Oligopolistic Behaviour Theories**
  - FDI driven by firms’ search for/defense of competitive advantage
- **Internalization Theory**
  - FDI driven by organizations’ internal transaction efficiency (hierarchy vs. markets)
- **Eclectic Theories**
  - FDI driven by many shifting forces
From Theory to Strategy: Investment Triggers at the Managerial Level

**TWO CLASSIC TRIGGERS OF FOREIGN INVESTMENT**  
**REACTIVE**
- To fill capacity  
- To protect exports
- To secure supplies  
- To exploit factor cost differences  
- To develop scale

**TWO EMERGING MOTIVATIONS**  
**PROACTIVE**
- Resource alternatives  
- Market trends  
- Technology  
- Competitive behaviour
- Preempt markets or resources  
- Match competitive advantages ("follow the leader")  
- Develop positional strength ("exchange of threats")

The Underlying Motivations

- To exploit competitive capability  
  (Product Cycle and Internalization Theories)
- To defend competitive capability  
  (Oligopolistic Behaviour Theory)
- To build competitive capability  
  (Location and Oligopolistic Theories)

Note that the competitive capability a company builds, defends and exploits will depend in part on the international environment in which it expands.

Benefits of global trade

- Economic benefits: lower labor cost, lower priced manufacturing components. E.g., labor- vs. capital-intensive industries
- Economies of scale
- Foreign market sales potential; first entrant/mover advantages
- Industry specialization: Japan – consumer electronics; Germany – machine tools

The World is Changing

- Globalization/International Competition
- Hyper-competition/How to Compete
- Convergence/Focus
- Breadth/Depth of Capability
- Networking/Partnerships
- Speed of Change/Technology
- Young People/Busy People
- Jobs for Life/A Life of Jobs
- Education for Life/A Life of Education
- Scale Economics/Individual Satisfaction
Logistics Issues for The 21st Century

- An intense refocusing on the customer
- A quest for quality and productivity
- Reduced differentiation on product and price
- A trend toward fewer suppliers
- Information exchange for inventory investment
- More powerful computers and software
- Integration of the TOTAL supply chain

Future Challenges in Logistics

- Strategic planning and participation
- Just-in-time (JIT); Quick response (QR); & Efficient consumer response (ECR)
- Logistics as a competitive weapon
- Emphasis on reducing logistics costs
- Logistics as a boundary-spanning activity
- Supply chain management
- Globalization
- Information technology
- Third-party logistics

Growth in Importance of International Logistics

- Imports and export markets experiencing rapid growth (imports increased from 6.1% to 12.9% and exports increased from 5.6% to 8.2%, 1970-1987)
- 70% of US-made products are subject to direct international competition
- Development of international economic relationships - NAFTA and EU
- Many logistics managers becoming more directly involved

Global Logistics & Transportation

The increasing importance of international logistics operations to corporations presents both prospects and problems for distribution professionals. On one hand, they will gain stature in their company ... on the other hand, they will face a larger number of more sophisticated logistics problems stemming from the complex nature of overseas distribution operations.

David L. Anderson, CLM 1984