



Logistics Planning and Management Services Pathway: **Air Mode**

Problem-based Scenario Outline

School Site: Davis

Detroit, Michigan

Pathway Knowledge and Skill(s):

- P02.1 Develop logistics solutions for customers
- P02.2 Analyze and improve performance of logistics

Performance Element(s):

- Define the preferred use of each mode of transportation, i.e. air, water, rail, and truck.
- Describe and explain the concepts of inventory carrying costs and the related impact on service to customers.
- Describe the areas where information technology can have significant impact on cost and service to customers.
- Develop written plan/presentation.
- Present plan to business.
- Define the methods and strengths of various types of electronic information transmission.
- Describe the benefits of shipment consolidation through traditional hubs and/or ports.
- Define the format and uses of performance tracking methods as they relate to tracking the individual pieces of the supply chain.

Title: Houghin / Mifflin

Completion Time: 3 weeks

Problem Statement: The Houghin-Mifflin Logistics executive in the United States must determine how to best serve customers in Egypt and Enritrea. The objective is to recommend where to source and store textbooks, what quantities to store versus what stock to ship direct, how to consolidate and ship textbook orders, and the optimal mode of transportation. Students must provide recommendations that minimize inventory carrying cost and transportation to provide the desired order cycle time for customers in each country. Prepare a written/oral plan with cost justifications and present your findings to the appropriate personnel.

Occupations and Related Job Titles (*Examples*):

Houghlin Mifflin Corporation (occupations only in example)

- Distribution Manager
- International sales representative
- Transportation Manager
- Warehouse Manager

Enritrea Receiving Headquarters

- Warehouse Manager(s)

Egypt Receiving Headquarters

- Warehouse Manager(s)

Business/Industry/Government Partner(s): Houghin Mifflin

Students:

- Determine customer requirements for order cycle time.
- Identify the optimal “total cost” solution to manage the supply chain
- Identify and analyze various transportation methods to determine the costs of each service level.
- Develop plans to determining the major causes of service failures or performance reliability problems or gaps.
- Identify and analyze inventory carrying costs, transportation cost, distribution center handling cost, and determine the optimal mix of each to reach the desired service level.
- Develop and submit a written business report on findings, potential cost savings, service improvement recommendations, and proposed plans.
- Make a business presentation on the report.

Product:

- Completed student worksheets for various performance elements
- A written literature review
- Student outline of business presentation
- Student outline or power-point hard copy of business presentation

Process:

- Students will identify, analyze, and evaluate data related to customer service levels, transportation options, and costs trade offs.
- Using problem solving strategies, students will create a logistics option that produces the required service levels and costs.
- Students will prepare a written business report.
- Students will make an oral presentation of their report.
- Students will complete the project in six (6) weeks.

Required Materials and Resources:

- Computers
- Word processing and presentation software
- Access to market research about customer’s service expectations.
- Access to a personal computer that performs

- Access to data regarding storage availability and inventory carrying costs.
- Access to world time zones.
- Transportation (bus) to work sites
- Computer and Internet / Web access for 2-3 project teams
- Computer with word-processing/Power-point/ presentation software
- Students will have access to market research about customer service expectation.
- Access to a personal computer is required to perform cost versus service scenarios (spread sheet and presentation software).
- Students will research transportation rates and service levels
- The business partner will provide data to assist students in determining storage availability and inventory carrying costs.
- Students must have access to a world atlas.
- Students must have access to world time zones.

Suggested Assessment Approaches:

- Peer and self assessment
- Rubrics
- Checklists
- Portfolios
- Learning Logs
- Teacher Observation
- Simulations

Cluster Foundation Knowledge and Skills:

- Comprehend a broad range of reading materials containing technical concepts, knowledge and vocabulary.
- Develop and incorporate tables, charts, graphs, and figures to support written and oral communications.
- Develop and deliver formal presentations using a broad range of technical concepts, knowledge, and vocabulary.