

VERSION 2.0

# EXAM CONTENT MANUAL PREVIEW

Effective March 14, 2020



# CLTD

CERTIFIED IN LOGISTICS, TRANSPORTATION AND DISTRIBUTION





APICS Certified in Logistics, Transportation and Distribution  
Preview of **CLTD Exam Content Manual Version 2.0**

Please be aware, this is not the full APICS Certified in Logistics, Transportation and Distribution (CLTD) Exam Content Manual (ECM). The full version is available as a free digital download for ASCM members or for purchase at [apics.org/shop](http://apics.org/shop). This preview is provided to give candidates an overview of what is contained on the exam on a very high level. For exam preparation, use of the current APICS CLTD ECM is strongly recommended.

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## CLTD ECM Version 2.0 Abbreviated Preview

### Exam Content

Nine content areas have been designed to organize the APICS CLTD domains. The relative importance of these topics will vary among industries, but the figures given below show the percentage designated for each section on the exam.

Diagnostic area	Main topic	Percentage of exam
I	Logistics Overview and Strategy	8%
II	Capacity Planning and Demand Management	9%
III	Order Management	10%
IV	Inventory Management	11%
V	Warehouse Management	13%
VI	Transportation Management	17%
VII	Global Logistics	15%
VIII	Logistics Network Design	10%
IX	Sustainability and Reverse Logistics	7%

# Content Outline Preview

## I. Logistics Overview and Strategy

Logistics is the core of supply chain management. Fundamental concepts include managing logistics as a cohesive system, understanding tradeoffs to present a logistics strategy that aligns with organizational strategy and finding the most effective mix of revenue producing services for the cost of providing that service. Measurement and continuous improvement are emphasized as ways to meet and exceed the pressures of globalization and the steadily increasing customer expectations for logistics.

### A. Logistics Fundamentals

It is important to understand the scope of logistics, including how it fits within the larger role of supply chain management and business strategy. The concept of tradeoffs is used to show how interconnected the various areas of logistics really are, while a review of logistics' process flows puts things into a different perspective. Achieving the full value of logistics requires a balance between costs, customer satisfaction and service levels. Emphasis is given to an understanding of why methods of accounting for logistics costs is important for logistics management and overall business success.

### B. Logistics Strategy within the Supply Chain

The many aspects of logistics strategy include altering tactics to account for product life cycle stages, finding the right balance between services and their costs, fitting in with existing organizational structures, developing strong relationships at the appropriate level, assessing strategic level risks including security and designing the right key performance indicators to encourage desired behavior.

## II. Capacity Planning and Demand Management

Logistics capacity planning and related decisions rely on efficient forecasts, so it is important to understand the concepts behind forecasting and its application to logistics decisions. This involves understanding how logistics can help direct and prioritize in order to better match supply to demand. The effective acquisition of inventory also requires a collaboration between procurement and logistics.

### A. Balance demand management with LTD capacity (long, medium, short-term)

Logistics professionals need an understanding of the concepts behind forecasting, especially the resource-alignment tasks through which organizations develop forecasts by which logistics, manufacturing, purchasing and other departmental plans are created.

### B. Translating Demand into Capacity Planning

Practitioners use forecasts or other demand information and translate it into high-level capacity plans for warehousing and transportation to deliver customer service at a consistent level.

### **C. Demand Management**

In its cross-functional interrelationships with sales, marketing, purchasing and manufacturing operations, logistics works to orchestrate and coordinate demand and supply in order to resolve interface conflicts by systematically considering plausible trade-offs. This requires an understanding of processes including sales and operations planning (S&OP), master scheduling, master production schedule (MPS), materials requirement planning (MRP) and distribution requirements planning (DRP).

## **III. Order Management**

At the core of the logistics process is the customer order, which serves as the trigger setting logistics in motion. Order management activities include a variety of tasks aimed at planning, designing and controlling processes which manage and execute customers' orders. At the core of these processes is customer relationship management since every decision and activity that logistics takes should be with the customer in mind. By developing a customer service management strategy, logistics can deliver on the seven rights of customer service which enhances long-term customer satisfaction and creates lifetime customers.

### **A. Customer Relationship Management (CRM)**

CRM is an important marketing philosophy that emphasizes all customers as being top priority, including internal customers or end consumers. By implementing the steps of a CRM process, relationships with key stakeholders can be optimized throughout each transaction.

### **B. Order Management**

Logistics professionals work closely with procurement specialists who source required materials and components from suppliers for the manufacture of products. Once the purchase order processing is completed, logistics confirms the goods received match the original order and a routing guide is used to assist in the multiple decisions that must be made.

Logistics relies on systems, such as Electronic Data Interchange (EDI) and transportation management systems (TMS) which enable order visibility to identify the status of any customer order and to coordinate complex inbound flows, intracompany movements and outbound orders. Supplier and carrier performance is tracked and measured so that improvements can be made on an ongoing basis, making logistics more efficient and effective.

Tailoring, aligning and managing relationships with the supply chain partners will enhance the performance of the entire supply chain.

## **IV. Inventory Management**

Inventory management involves maintaining inventory levels in a manner that aligns with the business strategy and goals, supporting the coordination of supply and demand, while protecting inventory value. Within the logistics environment, the effective management of inventory takes on added importance because of its direct impacts on service levels, working capital and return on asset investments. Like most things within the logistics systems, decisions regarding inventories must take the tradeoffs between costs and service levels into consideration.

## **A. Inventory Management in Logistics**

To fulfill its basic functions, inventory resides at many points in the supply chain. Excessive levels of inventory create additional costs for the organization, exposure to risk in fluctuations and changes in customer demand. Because of its critical impact on the bottom line, effective inventory management is now seen as a way to create value in the business. It is more imperative than ever to understand the unique role that inventory plays in the business strategy.

## **B. Inventory Management Methods**

Managing inventory effectively requires meeting competing goals to minimize inventory costs and maximize customer/consumer service. A clear understanding of what contributes to inventory carrying costs is, therefore, a prerequisite to crafting an appropriate inventory management strategy. These costs can be controlled through more effective approaches to inventory ordering that minimize the amount of time inventory resides in the pipeline, which reduces the risk of accumulating excess and potentially obsolete inventory.

## **C. Inventory Control, Strategy, and Policy**

Maintaining optimal inventory levels includes the related replenishment questions of “how much to order” and “how often to order.” The answers help create an inventory control approach that is both economical and service-oriented. Inventory control also requires deciding when to order, which in turn requires considering issues such as lead times, supply risk and inventory review. Inventory control approaches focus on increasing the rate of inventory turnover and helping the business capture the value of inventory investments more quickly.

## **V. Warehouse Management**

Warehouse management entails the movement of materials and goods into and out of storage efficiently, safely and with minimal inventory damage. Supporting the logistics systems' goal of time and place utility, warehouses enable synchronized storage, consumption and transportation activities within the supply chain. As business practices and technology evolve, warehouse management strategies must adapt to new distribution channels and customer/consumer expectations by creating new processes that deliver the desired results.

### **A. Warehouse Strategy, Ownership Types and Roles**

Warehouse management strategy aims to deploy the firm's warehousing assets and skills to advance the business goals. The warehouse strategy must be aligned with the corporate strategy and objectives and also with the organization's supply chain strategy, which defines the role of each warehouse, including its location, size and capabilities. Understanding the role of warehouses in the supply chain and within the firm's business strategy is the foundation of effective fulfillment processes. Ownership considerations support a responsive approach to changing business environments and enables organizations to maintain optimal facility location and performance.

### **B. Warehouse Processes, Layout and Automation**

Warehouse management strategy is implemented through efficient and effective warehouse processes, along with a safe and efficient warehouse layout that supports warehouse

operations and technology. The execution of warehousing activities and processes set the stage for the day-to-day facility operations. Product handling, storage and support functions provide key coordination between key processes and members across the supply chain while maximizing returns on the organization's inventory investment. Beyond basic product flows, warehouses support the timely and accurate flow of information within distribution facilities as well as across the supply chain. The use of appropriate warehouse technology enables distribution control and effective decision making within the supply chain.

### **C. Material Handling and Packaging**

High-performing material handling protocols represent significant cost savings and service improvement opportunities. Material handling, unit containerization and packaging represent integral parts of the integrated logistics systems with their significant impact on its cost and productivity capabilities. The facility considerations of material handling and packaging thus ensures handling efficiencies as well as customer-friendly product unitization and protection. With the increased use of automation and information technology applications within warehousing and material handling operations, supply chains are discovering new ways to reduce labor costs with promising improvements on service quality.

## **VI. Transportation Management**

Transportation moves goods and services across geographic lines, between where products are produced and where they are consumed, while allowing for competitive growth. At home and abroad, advances in transportation through technology and design have broadened the markets for both domestic and international competition. The wider a product's distribution and the greater its demand, the more manufacturers can leverage transportation's economies of cost. Logistics professionals are responsible for moving inventory throughout the firm's supply chain and to the firm's customers. They can use a combination of private and purchased transportation services with access to various modes of transportation, offering flexible solutions for transporting product from origin to destination.

### **A. Transportation Fundamentals**

Transportation systems connect the various supply chain components and must be properly managed and controlled with complete visibility and strong communication between multiple stakeholders and transportation managers. Proactive transportation management is critical to an efficient and economical operation and should be considered when a company plans organizational

### **B. Modes of Transportation and Selection Considerations**

Transportation consumes time, financial and environmental resources. Understanding the characteristics of the different transportation modes enables managers to make appropriate selections based on relative modal performance in terms of speed, availability, dependability, capability, frequency and cost. Intermodal transportation combines two or more modes to execute the shipment process and represent a key means of transportation service.

### **C. Transportation Management**

Transportation management usually covers two areas: inbound and outbound flows. Transportation management's goal is to reduce transportation costs and increase delivery reliability through collaboration between all participants in the transportation transaction:

carriers, providers and non-vessel operating agents. Transportation managers must effectively manage the entire transportation process—from long-range strategies and operational planning to day-to-day execution.

## **VII. Global Logistics**

For the global logistics manager, successful participation in international trade requires awareness and knowledge of a number of key components, including but not limited to:

- the infrastructure and systems of the countries to which it will export goods
- the regulations which govern each country that its shipments will travel through
- the customs clearing and documentation requirements for each shipment as dictated by each country and transportation mode used
- an understanding of how it can reach mutual agreement on the terms of sale, methods of payment and finance terms trade participants; and
- the process of determining the currency to be used for payment, transfer pricing and potential understanding of how free/foreign trade zones (FTZ) influences duties paid and total landed costs. Coordinating these international trade elements is an essential skill set for today's logistics professionals.

### **A. Infrastructure and System**

By identifying the macroenvironmental factors of global logistics that impact countries and organizations around the world, logistics professionals can be better prepared to manage their array of service providers, related transportation costs and substitute product offerings. A variety of important international trade theories and practices, as well as discussion of the relative quality and quantity of transportation infrastructures across modes and countries provide a solid historical and geographic perspective of the many components that impact global trade today.

### **B. Regulations**

Virtually every aspect of international trade is governed by regulations created by the government of each country through which a shipment will pass. With most international transactions, product shipments typically pass multiple borders, thus increasing the complexity of required documentation, safety and security measures and involvement of logistics and trade specialists. Trade agreements and trading blocs can be used to facilitate international trade by mitigating against some of these complex procedures. Navigating the various changing export restrictions and lists of restricted/denied parties requires a working knowledge of each country's current regulations, quotas, control lists, and end use certificates.

### **C. Customs Clearing and Documentation**

Today's logistics managers must be knowledgeable in preparing all the required documentation needed by customs to ensure that the customers' shipments arrive safely, securely, without damage and on time at their final designation. Ease in using the Harmonized System Classification codes is vital to properly specifying the goods for export and each code assignment ultimately dictates the tariff rate charged for those products.



## **VIII. Logistics Network Design**

The design of the network of warehouses and transportation lanes enables an effective match of supply with the place and time of demand. This involves choosing the optimal number, location and type of warehouse facilities, which can be supported by using both manual and automated decision support tools. Risk management helps logistics professionals determine how they can help minimize uncertainty and provide more reliable organizational results.

### **A. Facilities Planning**

Several factors need to be weighed to determine the proper location, number and type of warehouse facilities given the trade-offs with transportation. This requires a detailed analysis of transportation and distribution requirements, while understanding the key trade-offs inherent in planning and deploying an optimized network.

### **B. Distribution Network Design**

Logistics professionals should follow a process to make the complex activities of network design easier to navigate, including understanding the various factors to consider when selecting a particular facility location. Distribution network design involves employing modeling techniques, such as heuristic, optimization and simulation tools designed to help find the right balance among the competing needs of the multiple stakeholders involved in a modern logistics network.

### **C. Risk Management**

Risk management is a vital part of network design and must be included in order to make the network resilient and resistant to customer, financial, regulatory, security, hazard, business interruption and other types of vulnerabilities. It is important for logistics professionals to learn the risk management process for identifying, prioritizing and appropriately responding to each risk. These plans can include prevention or mitigation plans, as well as providing business continuity if a risk event occurs. Logistics requires an understanding of the types of insurance that can be acquired and the associated benefits and limitations. The amount of insurance obtained needs to be measured against risk levels to make sure that the investment in insurance is appropriate for the business situation.

## **IX. Sustainability and Reverse Logistics**

Companies around the globe use reverse logistics to manage their product returns in ways that actually turn the reverse flows into quantifiable value streams that not only contribute to the profitability of the organization, but also strengthen its triple bottom line (TBL) and its commitment to sustainability and social responsibility. These efforts make the organization more attractive to customers, suppliers, other supply chain participants and to shareholders who value green initiatives, reduced carbon footprints and wiser usage of the world's finite resources.

### **A. Reverse Logistics**

Logistics is involved in deciding if the firm's reverse logistics strategy can be handled internally by creating a central returns center or by hiring a third-party provider to coordinate the activities. These activities may include recalls, overstocks, reuse, refilling, repairing, remanufacturing, refurbishing, recycling, repurposing, recovery and disposal. The firm must carefully weigh the benefits and challenges it will encounter for each of these sub-processes

and develop a comprehensive strategy to master and manage its reverse flow processes and the value stream which will contribute positively to the organization's bottom line.

## **B. Sustainability**

Logistics plays a critical role in demonstrating social responsibility that is valued by its customers, shareholders and the community. It can impact each dimension of social responsibility, safety, human rights, diversity, philanthropy and ethics by implementing specific tactics in its operations. With these targeted efforts and sustainability initiatives, logistics will impact the organization's triple bottom line (TBL) which measures their economic, social and environmental impact.

A commitment to sustainable processes and practices and choosing suppliers and other supply chain members according to those requirements will help the organization be a good environmental steward for the long-term.

### **About APICS and ASCM**

For more than 60 years, APICS certifications and training have demonstrated a commitment to global supply chain excellence – achieved one person at a time. APICS CPIM, CSCP and CLTD are now part of the Association for Supply Chain Management (ASCM), the largest non-profit association for supply chain professionals. ASCM is proud to offer the globally recognized certification programs you've come to trust.

