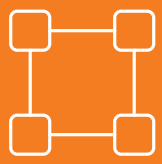
The Fresh Connection

THE ULTIMATE VALUE CHAIN EXPERIENCE

Introduction to Supply Chain Management

POWERED BY:
The Fresh Connection



OVERVIEW

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Introduction to Supply Chain Management

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Introduction to Supply Chain Management gives students a practical first look at how core supply chain functions work together across the value chain. This learning solution helps students move beyond isolated theory and understand how decisions in Sales, Operations, Supply Chain, and Purchasing influence overall business performance.

The experience is powered by **The Fresh Connection**, a leading business simulation based on a virtual fruit juice manufacturing company. Students make a limited set of decisions within their assigned role and immediately observe the impact on overall supply chain performance.

Students progress through four functional role modules: **Sales**, **Operations**, **Supply Chain**, and **Purchasing**. Each module focuses on a key area of decision-making, such as managing service levels, improving production capacity, balancing inventory, or selecting suppliers. Through this structured progression, students build a practical understanding of how functional decisions interact across the supply chain.

Aligned with the **SCOR model** — Plan, Source, Make, Deliver, Return, and Enable — the learning solution emphasizes cause-and-effect thinking. Students learn to evaluate trade-offs between cost, service, reliability, efficiency, and profitability while working within realistic business constraints.

Designed for introductory learners, the learning solution combines individual gameplay, role-based decision-making, and guided reflection. By the end of the experience, students build a strong foundation in supply chain management and develop decision-making skills in a realistic business context.

Module: **Sales**

Key Topics:

- Service level and service level agreements
- Service level promise and service level agreements negotiations
- The impact of supply chain reliability on customer service
- Customer segmentation and priority
- Order management and inventory allocation
- Shelf-life promise and obsolete products

Learning Objectives:

By the end of this module, students will be able to:

- Analyze service level agreements (SLAs) and service level promises to determine their impact on revenue, costs, and overall supply chain performance.
- Evaluate financial and operational trade-offs between promised freshness, shelf-life constraints, and achievable service levels to design feasible and profitable agreements.
- Assess how supply chain reliability affects the ability to meet customer commitments.
- Apply customer segmentation and prioritization strategies to differentiate service levels and maximize customer value and profitability.
- Apply shortage rules to allocate limited stock effectively across customer segments under constrained supply conditions.
- Evaluate the risks of over-promising in SLAs, including penalties and margin erosion, and propose strategies to

balance customer expectations with operational capabilities.
- Analyze the financial and operational impact of product shelf-life and obsolescence on service level decisions and customer agreements.

Module Structure:

In this module students will step into the Sales role inside The Fresh Connection business game. They will play four rounds of the game, div into two thematic levels:

ROUND 1 – 2: SERVICE LEVEL AND SHORTAGE RULE
Students negotiate service level agreements with customers while working within the constraints of limited production capacity and available inventory. They must avoid service level penalties, manage customer expectations, and decide how stock should be allocated when shortages occur.

Available decision:
- Service level promise
  Shortage rule: first come, first served; customer priority; or proportional allocation

ROUND 3 -4: SHELF-LIFE PROMISE AND PRODUCT OBSOLESCENCE
Students work to reduce obsolete products by managing the shelf-life promise offered to customers. They must balance the desire to promise fresher products with the risk of lower revenue, higher obsolescence, and operational limitations across the supply chain.

Available decision:
- Shelf-life promise

Module: **Operations**

Key topics:

- Production capacity planning
- Capacity and capability improvement projects
- Production schedule (plan) adherence
- Warehouse capacity management
- Double-handling of inventory and process optimization (lean systems thinking)

Learning objectives:

By the end of this module, students will be able to:

- Manage personnel capacity by allocating and adjusting work shifts to ensure efficient use of labor resources and production capacity.
- Achieve high production plan adherence by analyzing performance deviations and taking corrective operational actions.
- Implement improvement projects (e.g., maintenance, training, SMED, speed increases) to enhance production efficiency and flexibility at optimal cost levels.
- Make informed capacity decisions by balancing production output, resource utilization, and operational constraints.
- Allocate warehouse space and personnel effectively to meet operational requirements while avoiding capacity shortages.
- Reduce operational inefficiencies by identifying and minimizing waste, e.g double-handling of inventory
- Balance operational trade-offs between flexibility, cost control, and product availability to optimize overall performance.
- Evaluate how operational decisions impact financial outcomes, including operational costs, efficiency, and overall profitability.

Module Structure:

In this module students step into the Operations role inside The Fresh Connection business game. They will play four rounds of the game, divided into two thematic levels:

ROUND 1-2: BOTTLING LINE CAPACITY & IMPROVEMENT PROJECTS
Students are tasked with increasing the production plan adherence on The Fresh Connection's bottling line by managing the number of allocated shifts and implementing improvement projects at the optimal cost-level.

Students must understand both the operational and the financial impacts of their decisions.

Available Decisions:
- Bottling line: number of shifts
- Bottling line: maintenance intensity
- Breakdown training for personnel
- Single-Minute Exchange of Die (SMED)
- Increased speed

ROUNDS 2-3: WAREHOUSE CAPACITY MANAGEMENT
Students manage inbound warehouse space and personnel capacity. When determining the warehouse space requirements, they must account for the current component inventory policy, including safety stock and lot size.

The goal is to provide enough warehouse capacity to avoid overflow and reliance on flexible labor, while keeping costs under control.

Available Decisions:
- Inbound warehouse: number of pallet locations
- Inbound warehouse: number of Full-Time Employees (FTE)

Module: **Supply Chain Management**

Key Topics:

- Inventory policies (Lot Size, Safety Stock)
- Component availability
- Supply chain reliability
- Component storage density

Learning Objectives:

By the end of this module, students will be able to:

- Determine appropriate component safety stock levels to maintain product availability while mitigating the risks of supplier unreliability and demand variability.
- Analyze the trade-offs between inventory availability, warehouse capacity, and inventory holding costs when setting safety stock levels.
- Evaluate the impact of safety stock decisions on operational performance and financial outcomes, including working capital and profitability.
- Determine optimal component lot sizes by balancing transport efficiency with warehouse space and labour constraints.
- Analyze the operational implications of lot size decisions, including unloading effort, space utilization, and risk of inefficiencies.
- Evaluate the financial impact of lot size decisions, including transport costs, handling costs, and overall cost efficiency.

- Align inventory decisions with warehouse capacity constraints to ensure feasible and efficient supply chain operations.
- Integrate operational and financial considerations to make balanced supply chain decisions that optimize overall performance.

Module Structure:

In this module, students step into the Supply Chain role inside The Fresh Connection business game. They will play four rounds of the game, divided into two thematic levels:

ROUND 1 – 2: COMPONENT SAFETY STOCK
Students are tasked with managing component safety stock levels to ensure sufficient availability while mitigating the risks of supplier unreliability and demand variability. They must balance the need for higher safety stock against limited warehouse capacity and the associated cost implications.

Students are also expected to understand how their operational decisions on safety stock levels impact financial performance, including inventory holding costs and overall profitability.

Available Decisions:
- Component Safety Stock (weeks)

ROUND 3 – 4: COMPONENT LOT SIZE
Students are tasked with determining the optimal lot (order) size for components by balancing transport costs with warehouse space and labour constraints. They must align their decisions with warehouse capacity while managing the risk of inefficiencies caused by overly large or small deliveries.

Students are also required to understand how lot size decisions impact both operational performance and financial outcomes.

Available Decisions:
- Component Safety Stock (weeks)
- Component lot size (weeks)

Module: **Purchasing**

Key Topics:

- Delivery reliability and impact on component availability.
- Production stability and cost of quality
- Contracts and Supplier Performance Agreement negotiation.
- Supplier selection and total cost implications
- Component availability

Learning Objectives:

- Evaluate supplier delivery reliability and component quality to improve component availability and production stability.
- Analyze the impact of supplier performance on service levels and production plan adherence.
- Negotiate realistic service level agreements by aligning supplier promises with actual performance capabilities.
- Balance trade-offs between cost, delivery reliability, and quality when making sourcing decisions.
- Assess the financial and operational impact of supplier-related decisions, including their effect on service levels, production efficiency, and return on investment.
- Evaluate and select suppliers based on multiple criteria, including transport costs, contract terms, reliability, quality, and lead times.

- Analyze how supplier selection decisions influence overall supply chain performance, including component availability and operational efficiency.
- Integrate operational and financial considerations to make sourcing decisions that optimize overall performance and profit.

Module Structure:

In this module students will step into the Purchasing role inside The Fresh Connection business game. They will play 4 rounds of the game split into 2 thematic levels:

ROUND 1- 2: DELIVERY RELIABILITY & COMPONENT QUALITY
Students need to improve component availability and production stability by managing supplier performance. They must address issues related to unreliable deliveries and poor incoming quality, both of which negatively impact production plan adherence and service levels.

Students are challenged to balance cost, delivery reliability, and quality when making sourcing decisions. They must evaluate how realistic supplier promises are and align their decisions with actual supplier performance characteristics.

Students are also expected to understand how their decisions impact both operational performance and financial outcomes, including service levels, production efficiency, and return on investment.

Available Decisions:
- Supplier delivery reliability promise
- Component quality

ROUND 2 -3: SUPPLIER SELECTION
Students evaluate and select suppliers for packaging components as existing contracts come up for renewal. They must assess whether alternative suppliers can offer improved cost efficiency without compromising delivery reliability and product quality.

Students are challenged to balance multiple sourcing criteria, including transport costs, contract terms, supplier reliability and quality, lead times, and production methods. They must make informed trade-offs to optimize overall supply chain performance.

Students are also expected to understand how supplier selection decisions impact both operational performance and financial outcomes.

Available Decisions:
- Supplier market
- Supplier delivery reliability promise
- Component quality

Summative Assessment

The module includes assessment templates aligned with the stated learning objectives and module topics. The assessments consist of multiple-choice and open-ended questions accompanied by answer keys.

The assessment structure is based on Bloom's Taxonomy and evaluates students across the Remember, Understand, and Apply levels of learning. Two assessment options are available depending on the intended learning depth and available instructional time.

Foundation Assessment (45-60 minutes)

The Foundation Assessment evaluates the Remember and Understand levels of learning, focusing on students' knowledge and comprehension of core supply chain concepts introduced in the module.

Applied Assessment (60 – 75 minutes)

The Applied Assessment evaluates the Remember, Understand, and Apply levels of learning. Apply-level questions are based on a business case derived from The Fresh Connection simulation and require students to apply supply chain concepts in a practical decision-making context.