

SAVVY ENTREPRENEURSHIP

# 10

## Inventory

# LEARNING OBJECTIVES

- Describe the methods employed to build, store, use, and restock inventory
- Calculate the value of inventory for asset-management purposes
- Characterize point-of-sale (POS) systems and other digital means of managing inventory

# Case Study: Willa Is Down to Her Last Box



All of a sudden (it seemed), Cone Crazy was down to its last box of cones, and the inventory on hand wasn't going to last until the end of the day. Willa's supplier promised delivery before noon, but a hefty fee is involved.

Willa vows to get her inventory under control!

# Inventory Management

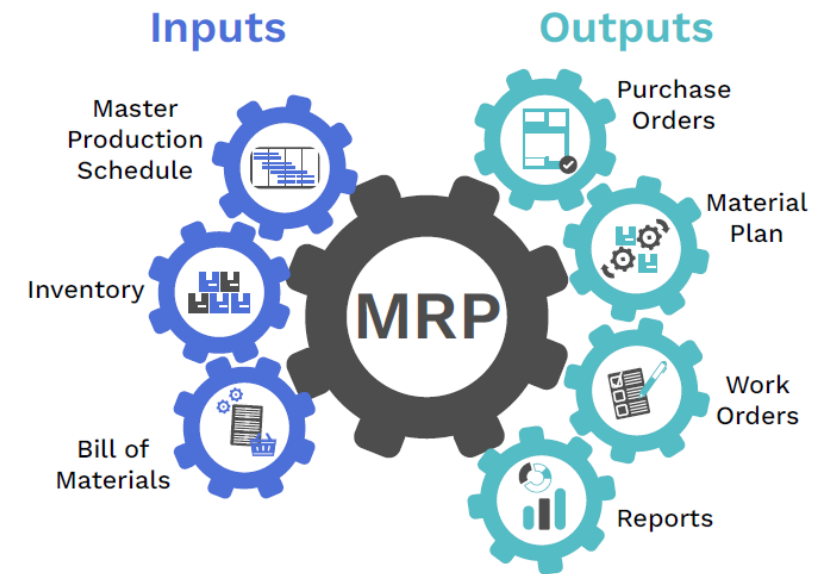
- Method of how to deal with inventory:
  - Buy
  - Store
  - Use
  - Restock
- Can be straightforward
  - Easily counted and labeled
- Can be complex
  - Example: numerous parts for automobiles



SafetyCulture's  
video ["What Is  
Inventory  
Management?"](#)

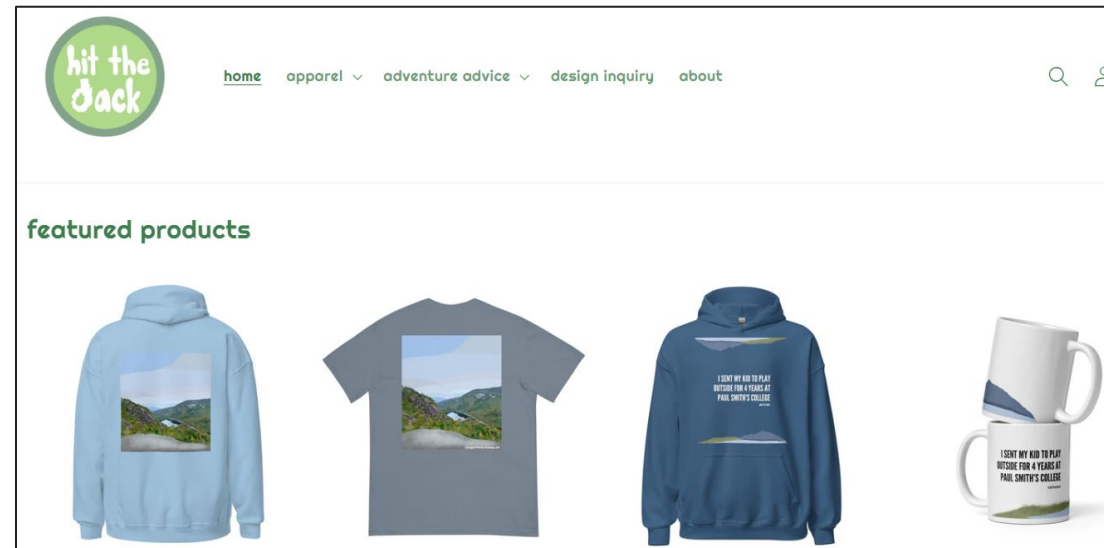
# Types of Inventory Management Models

- Just-in-time (JIT) inventory
  - Goods moved **now**
- Materials Order Planning (MOP)
  - Adequate raw material inventory
- Economic Order Quantity (EOQ)
  - Raw materials only when needed
- Day Sales Inventory (DSI)
  - Ratio measurement of product in/sales out



# Inventory Management Matching

- High-cost, highly delineated products
- High-cost, non-delineated products
- Low-cost, highly delineated
- Low-cost, non-delineated products



## ACTIVITY

Identify the best inventory management system for each scenario.

1. Vegetable oil-based desk stain	
2. Packaged health snack bars	
3. High-end glass artwork	
4. Detergent for sensitive skin	
5. Stay-cool camping tents	
6. Instant growing mushroom kits	
7. Custom-designed bike frames	

(Answers on the next slide.)

## ACTIVITY

Identify the best inventory management system for each scenario.

1. Vegetable oil-based desk stain	<b>MRP</b>
2. Packaged health snack bars	<b>JIT</b>
3. High-end glass artwork	<b>DSI</b>
4. Detergent for sensitive skin	<b>EOQ</b>
5. Stay-cool camping tents	<b>DSI</b>
6. Instant growing mushroom kits	<b>JIT</b>
7. Custom-designed bike frames	<b>JIT</b>



# Inventory Valuation

- FIFO (first in, last out)
  - Sell earlier-purchased (costed) products first
  - Value inventory at **LATER** costs
- LIFO (last in, first out)
  - Sell later-purchased (costed) products first
  - Value inventory at **EARLIER** costs
- WAC (weighted average cost)
  - Divide total inventory costs by total units bought for average price per unit
  - Value remaining inventory at that amount

# FIFO Method

- 12 bikes have been sold
- Value COGS starting with the "first in" (oldest) cost per unit
  - \$400 (January cost) for the first 10
  - \$450 (February cost) for the next 2

$$(\$400 \times 10) + (\$450 \times 2) = \$4,900$$

- Remaining inventory value (for 18 units) is calculated from the next oldest price paid
  - $(\$450 \times 3) = \$1,350$
  - $(\$500 \times 5) = \$1,500$
  - $(\$600 \times 10) = \$6,000$

$$\text{Remaining inventory value: } \$8,850$$

My Bike Shop Inventory Purchases			
	Units Purchased	Cost Per Unit	Total Cost
January	10	\$400	\$4,000
February	5	\$450	\$2,250
March	5	\$500	\$2,500
April	10	\$600	\$6,000

# LIFO Method

- 12 bikes have been sold
- Value COGS starting with the “last in” (newest) cost per unit
  - \$600 (April cost) for the first 10
  - \$500 (March cost) for the next 2

$$(\$600 \times 10) + (\$500 \times 2) = \$7,000$$

- Remaining inventory value (for 18 units) calculated from the next newest price paid
  - $(\$500 \times 3) = \$1,500$
  - $(\$450 \times 5) = \$2,250$
  - $(\$400 \times 10) = \$4,000$

Remaining inventory value: \$7,750

My Bike Shop Inventory Purchases			
	Units Purchased	Cost Per Unit	Total Cost
January	10	\$400	\$4,000
February	5	\$450	\$2,250
March	5	\$500	\$2,500
April	10	\$600	\$6,000

# WAC Method

- Total units purchased: 30
- Value of total units purchased: \$14,750

$$\$14,750 \div 30 = \$492$$

- Use this value to compute COGS and the remaining inventory value

$$\$492 \times 18 \text{ units} = \$8,856$$

My Bike Shop Inventory Purchases			
	Units Purchased	Cost Per Unit	Total Cost
January	10	\$400	\$4,000
February	5	\$450	\$2,250
March	5	\$500	\$2,500
April	10	\$600	\$6,000
<b>TOTALS</b>	<b>30</b>		<b>\$14,750</b>

# Specific Identification Method

- Real-time tracking of items
  - Sold
  - Restocked
  - Valuation
- Value of the remaining inventory is computed by examining the total paid to purchase that inventory
- Not as good at determining replacement costs

# Inventory Tracking Systems

Point-of-sale (POS) systems track when products sold from inventory

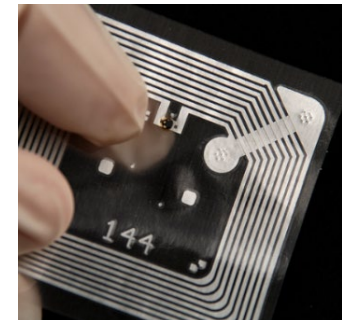
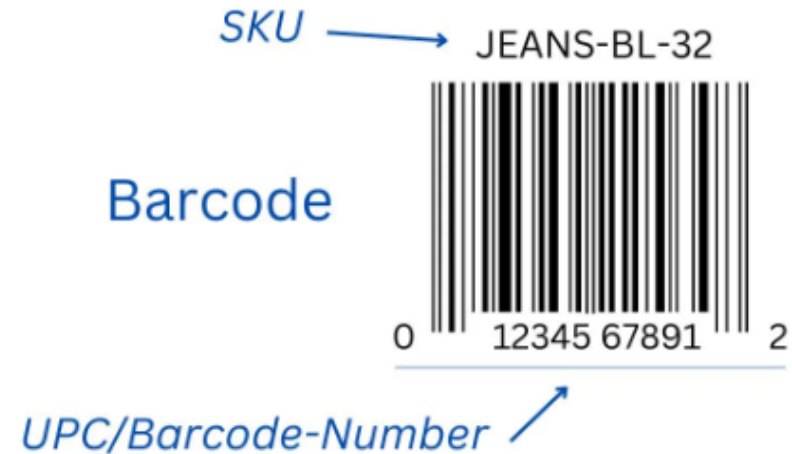
- Square
- eHopper
- Shopify
- Touchbistro
- Shopkeep



# Inventory Tracking Systems

## Technology

- SKUs: Created by company
- Barcode: Many formats
- UPC/barcode number: For products with multiple selling locations
- RFID (radio frequency identification devices)



# CHAPTER SUMMARY

- Methods to build, store, use, and restock inventory include just-in-time (JIT), materials requirement planning (MRP), economic order quantity (EOQ), and day sales inventory (DSI).
- Inventory valuation methods include FIFO (first in, last out), LIFO (last in, first out), and WAC (weighted average cost).
- The savvy entrepreneur determines the best inventory valuation method for their unique product.
- POS systems and other digital means can help with inventory management and much more; options include Square, eHopper, and Shopify.