

KPI

Mini-Series

for School Nutrition Programs

Inventory Turnover Rate

Objective: Calculate and analyze the efficient monthly and annual use of inventory to control food and supply costs.

Preparation Checklist

Instructions: The following tasks are necessary for presenting the trainings. Keep track of the progress by checking off tasks as they are completed. (Items may vary according to needs of particular lessons.)

Task	Person Responsible	Completion Date	✓
<p>Reserve equipment and gather supplies as needed for use on the day of class (6 weeks prior).</p> <p>Roster of participants attending for instructor Participants' sign-in sheets</p> <p>Task to do before the training Print handouts and activities for each participant Print activity answer keys for each participant to pass out at the end of the lesson</p> <p>List of equipment and supplies needed Microphone (preferably wireless) Calculators Pens, pencils, note paper, self-adhesive notes, (each table) Chart paper and markers</p>	Instructor		

Objective: Calculate and analyze the efficient monthly and annual use of inventory to control food and supply costs.

SAY: Hello, everyone. Welcome to the Key Performance Indicators (KPI) lesson on inventory turnover rate. Our training will cover inventory turnover and how to apply the information to determine if a school is holding too much inventory. The financial goal is to control food and supply costs for the school nutrition program.

ASK: Can someone tell me what inventory turnover is?

DO: Wait for participants to respond.

FEEDBACK: Inventory turnover is a measure of inventory efficiency. Specifically, it is the number of times inventory is utilized in a period.

ASK: Why would you want to calculate inventory turnover in your school?

DO: Wait for participants to respond.

FEEDBACK: Calculating inventory turnover each month allows the manager and director a means to control food and supply investments. Inventory turnover rate provides an indication of a school nutrition (SN) program's ability to control inventory levels.

ASK: How often should you calculate inventory turnover rate?

DO: Wait for participants to respond.

FEEDBACK: Inventory turnover rate can be calculated monthly and annually.

DO: Distribute copies of the **Inventory Turnover Rate** handout.

SAY: Let's look at how to calculate monthly inventory turnover. The beginning purchased inventory is the same figure as the previous month's ending purchased inventory.

Inventory Turnover Rate

The following formula is used to determine inventory turnover rate:

$$\frac{\text{Costs of Goods Sold}}{\text{Average Inventory Value}} =$$

$$\frac{(\text{Beginning Inventory} + \text{Purchases during Period}) - \text{Ending Inventory}}{(\text{Beginning Inventory} + \text{Ending Inventory}) / 2}$$

Beginning inventory	\$6,600
Purchases during the month	\$11,400
Ending inventory	\$5,400
Cost of food used during the month	\$12,600

$$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory Value}} = \frac{(\$6,600 + \$11,400) - \$5,400}{(\$6,600 + \$5,400) / 2} = \frac{\$12,600}{\$6,000} = 2.1$$

The ending inventory of \$5,400 is the beginning inventory amount for the next month.

KPI Mini-Series: Inventory Turnover Rate

ASK: Can anyone tell me what the 2.1 represents?

DO: Wait for participants to respond.

FEEDBACK: The 2.1 represents the number of times the inventory turned over or was used and replenished in a period of time.

ASK: Are you ready for an activity to see what you have learned?

DO: Distribute copies of the worksheet **Calculating Inventory Turnover Rate**. Ask the participants to complete this worksheet.

SAY: Let's complete an activity to see what you have learned. Look at the **Calculating Inventory Turnover Rate** activity worksheet.

DO: Read the instructions. Give participants about five (5) minutes to complete the activity. Walk around to help anyone that may have questions or need help. When everyone has completed the activity, go over the answers. Explain how to calculate the answers if someone does not understand.

Calculating Inventory Turnover Rate

Instructions: Calculate inventory turnover rate using the information in the following chart. Then answer the question after you have completed the calculations. You will have about five (5) minutes to complete the activity.

Step # 1: Determine the beginning inventory for the month of February		\$
Month	End of Month Inventory Value	Value of Food Purchases
January	\$8,496	\$24,021
February	\$7,144	\$18,677
March	\$9,297	\$21,583
Step # 2: Add the food purchases for the month of February		\$
Equals food available in February		\$
Step # 3: Less ending February inventory		\$
Cost of Food Used in February		\$

What is the beginning inventory amount for the month of March? _____

Calculating Inventory Turnover Rate Answer Key

Step # 1: Determine the beginning inventory for the month of February		\$ 8,496
Month	End of Month Inventory Value	Value of Food Purchases
January	\$8,496	\$24,021
February	\$7,144	\$18,677
March	\$9,297	\$21,583
Step # 2: Add the food purchases for the month of February		\$ 18,677
Equals food available in February		\$ 27,173
Step # 3: Less ending February inventory		\$ 7,144
Cost of Food Used in February		\$ 20,029

SAY: What is the beginning inventory for March? **\$ 7,144**

The information to calculate inventory turnover rate can be gathered from the:

- Revenue and expenditure report (to show monthly purchases)
- Point-of-sale inventory system
- Inventory records from the beginning and end of a period

Inventory turnover benchmarks or standards should be established for each school in a district. When inventory turnover rate is low (or high inventory levels), it presents a number of problems. It is difficult to keep track of what products are on hand, more storage space is required, money is tied up, and it is harder to control waste or pilferage than when inventory turnover rate is high (or inventory levels are low).

A school that receives a weekly delivery for most products should have a turnover rate of once every 7-10 days or 2-3 times a month.

SAY: There are many factors that influence inventory turnover rate, some of which include:

- Forecasting
- Inventory loss due to waste, theft, spoilage, and other product loss
- Secure and safe storage practices reduce inventory loss and ensure shelf life is maximized
- Frequency of deliveries
- Storage space
- Use and number of weeks of cycle menus
- Minimizing menu substitutions
- Large bid
- Order procedures (centrally placed orders allow for review and revision)
- Meals and meal counts
- Meal service interruptions where there is a loss of foodservice opportunity (i.e., snow days)
- Non-compliance with regulations

ASK: Does anyone have any questions about inventory turnover rate, its importance, and how to calculate it?

DO: Answer questions to the best of your ability. If there are questions you cannot answer, tell the participants you will find out the answer and get back with them.

SAY: Thank you for participating in today's training. I hope you will take this information back to your school and begin to use it.

References

- Institute of Child Nutrition. (2018). *Essential KPIs for school nutrition success*. University, Mississippi: Author.
- U.S. Department of Agriculture. (2015). *Professional standards for school nutrition professionals*. <https://www.fns.usda.gov/school-meals-professional-standards>
- U.S. Department of Agriculture, Food and Nutrition Service. (2019). *Food distribution program: Value of donated foods* (July 1, 2019 - June 30, 2020). <https://www.fns.usda.gov/usda-fis/fr-081219>
- U.S. Department of Agriculture, Food and Nutrition Service. (2019). *National school lunch, special milk, and school breakfast programs, national average payments/maximum reimbursement rates*. <https://www.federalregister.gov/documents/2019/08/07/2019-16903/national-school-lunch-special-milk-and-school-breakfast-programs-national-average-paymentsmaximum#p-31>



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