Days Inventory Outstanding: What Is It and How to Calculate It

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If you currently manage inventory for your business, you know how important it is to order the correct amount of raw materials, turn the materials into finished goods and sell those products to your customers.

But do you know how quickly your company is doing that?

It’s easy to find out by calculating the Days Inventory Outstanding metric, a financial ratio designed to help both management and investors have a better understanding of how quickly inventory can be turned into sales.

What Is Days Inventory Outstanding?

Days Inventory Outstanding (DIO) is an easily calculated metric used to determine the average number of days it takes a company to convert its inventory into sales.

Also known as Days in Inventory or Days Sales of Inventory, the Days Inventory Outstanding ratio is helpful when evaluating the operating efficiency of a company, and is beneficial to management and investors alike.

What Is the Formula for Calculating Days Inventory Outstanding?

The days inventory outstanding formula is:

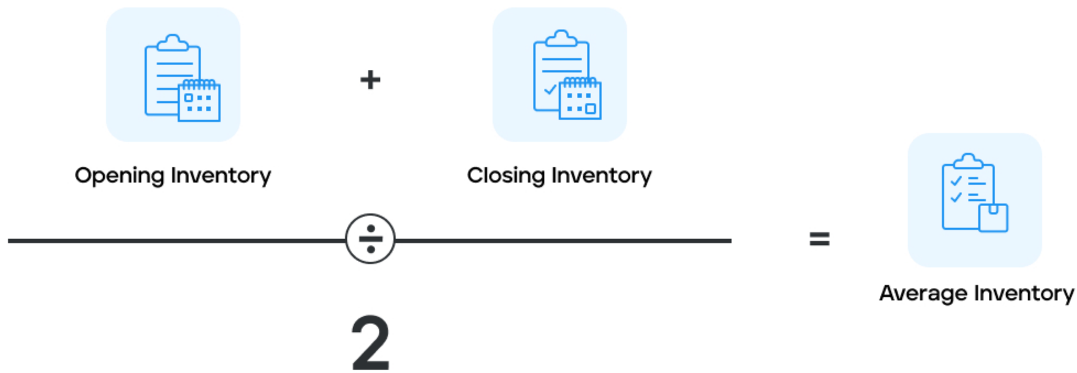
Average Inventory/Cost of Goods Sold x Number of Days = Days Inventory Outstanding

To begin calculating DIO, you'll first need to calculate the average value of your inventory for a specific period of time.

For example, if you're calculating DIO at the end of the year, you'll take your beginning inventory total, and your ending inventory total, and divide that by 2 to get your average inventory.

This is the formula to calculate your average inventory for the period:

(Opening Inventory + Closing Inventory) / 2 = Average Inventory



You can also calculate DIO quarterly if you prefer. Let's say your inventory total as of January 1, 2023, is $115,000 and your ending inventory total for March 31 is $145,000, the total inventory would be $260,000.

This number is then divided by two, making your average inventory for the first quarter $130,000.

Next, you'll obtain your cost of sales or cost of goods sold (COGS)from your income statement for the same period. If you're calculating the cost of goods sold manually, you would use the following formula:

Opening Inventory + Purchases – Closing Inventory = Cost of Goods Sold

The Cost Of Goods Sold Formula

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For this example, we'll say that the COGS total for the first quarter is $495,000.

Finally, you'll need to calculate the number of days in which you're calculating DIO. For the first quarter, the number of days would be 90.

If you were calculating DIO for the year, the total number of days would be 365.

Now that you have all of the necessary totals, you're ready to calculate the DIO.

$130,000 / $495,000 x 90 = 23.63 days

The result shows that for the first quarter of 2023, your business is able to clear existing inventory every twenty-four days.

For planning purposes, the result means that you'll likely sell out and restock inventory monthly.

Should Days Inventory Outstanding Be

High or Low?

The general consensus when it comes to days inventory outstanding is that a low DIO is better.

That’s because the faster a company is able to transform materials and suppliers into a finished product ready for sale, the more efficiently they’re operating, and the quicker cash flow can be generated.

Take a look at the chart below to see what both lower and higher days inventory outstanding means for your business.

Low Days Inventory Outstanding	High Days Inventory Outstanding
A lower DIO indicates ordering is efficient within the company	A higher DIO can mean that inventory isn’t being managed properly
A lower DIO indicates that your business is more efficient at selling inventory	A higher DIO can result from poor marketing efforts or a lack of product exposure
A lower DIO means that inventory is converted into revenue quickly	A higher DIO may indicate that pricing is too high when compared with comparable products
A lower DIO usually means that you’ll need to watch inventory supply closely, particularly if sales increase to avoid out-of-stock issues	A higher DIO can mean that the product you’re selling has become obsolete or the market has become saturated with similar products

What Days Payable Outstanding Tells You

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The days inventory outstanding metric can be valuable to businesses that manage inventory, but the results shouldn't be used in a bubble.

Instead, the DIO should be paired with similar ratios such as the inventory turnover ratio or the cash conversion cycle to get a clearer picture of inventory movement and cash flow.

Only compare your days inventory outstanding results with similar companies and not across multiple industries.

For example, if the industry average is 50 days and your company's DIO is 40, you're performing better than your competitors.

Likewise, if the standard DIO is 50 and your company's DIO is 65, then your DIO would be considered high.

If it is high, investigating why it's higher than your competitors and correcting

those issues can make your business more competitive.

Benefits of Days Inventory Outstanding

Managing inventory properly is one of the keys to business success. Proper management should include knowing how long your business takes to convert inventory into completed goods.

DIO provides that information to business owners, CFOs, and managers, but also plays a key role for investors looking to see how quickly a business converts raw products into a saleable item, since revenue is dependent on having a finished product to sell.

Tracking this information along with landed cost will give you a much better understanding of how long it takes and how much it costs to prepare your goods for sale.

Other benefits of calculating your DIO include:

- ## Better Cash Flow Management

  Knowing your DIO is important for cash flow management purposes.

  For instance, if it currently takes your business 30 days to convert inventory into a completed product for sale, you can better plan future cash flow by knowing when those products will be available for sale.

- ## Ability to Identify Inefficiencies

  Knowing your DIO helps to identify inefficiencies in your manufacturing process, so improvements can be made.

- ## More Informed Product Pricing

Knowing exactly how long it takes to produce a finished product ready to sell is an important component of your pricing strategy.

For example, you may want to price a product that takes longer to manufacture higher than that of a similar product that can be completed in less time.

- ## Better Overall Inventory Management

Knowing your DIO can help you manage your inventory flow more efficiently.

Knowing how long it takes to convert inventory into a finished product can help you better plan materials and supplies orders, eliminating both overstocking of inventory from ordering too frequently, or understocking, which can result in delayed manufacturing and backorders.

Benefits of Tracking Days Inventory Outstanding

Understanding How Long It Takes To Convert Materials To Finished Products For Sale

Better Cash Flow Management

Ability To Identify Inefficiencies

More Informed Product Pricing

Better Overall Inventory Management

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Disadvantages of DIO

There are tremendous benefits derived from calculating your company's DIO, but there are some disadvantages as well, starting with an inaccurate average inventory total, which is the result of inconsistent inventory purchases.

For example, if your business is negotiating a large order from one of your best customers, you'll likely order excess inventory to complete the order.

However, that inventory does not accurately reflect your average inventory for that time period, since you'll likely not order the same amount of inventory regularly.

Another disadvantage is that while the DIO calculation can provide you with an idea of how efficiently your business is producing inventory for sale.

If you have a high DIO, it remains up to you to discover any bottlenecks that are causing your number to be higher than it should be.

What Effect Does Days Inventory Outstanding Have on Profitability?

Profitability is directly related to the ability to sell products, so it stands to reason that your DIO will directly impact profitability and your company's cash balance.

DIO won't give a direct understanding of profitability in the same way profitability ratios will, but it is useful none the less.

A lower days inventory outstanding number is an indication that a business is able to prepare its current inventory for sale quickly. The faster that process is, the faster revenue will be collected.

However, if your DIO indicates that a business only turns over inventory twice a year, profitability will be directly affected, with fewer sales and less revenue.

How Do You Use Days Inventory Outstanding To Calculate Cash Flow Conversion?

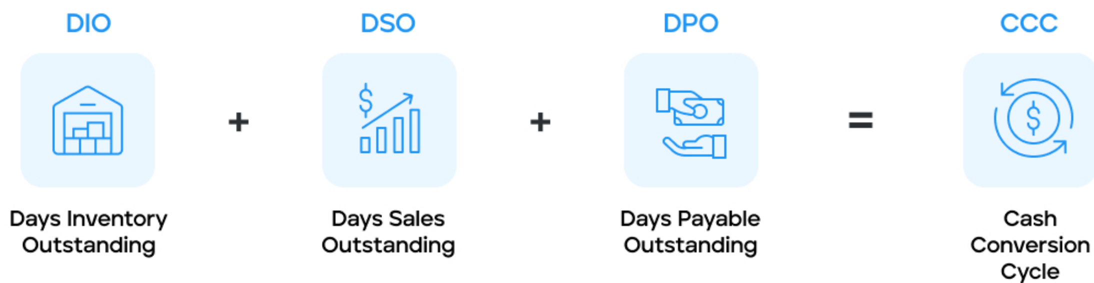
Because Days Inventory Outstanding measures the number of days it takes to convert inventory into sales, it is one of the three metrics used when calculating the Cash Conversion Cycle (CCC).

Two other activity ratios: Days Payable Outstanding (DPO), and Days Sales Outstanding (DSO) are also used in the calculation.

Using these three metrics together, the Cash Conversion Cycle measures the time it takes to purchase supplies and materials, turn them into a saleable product, sell the product to your customers, and collect payment for the items that are sold.

The formula to calculate CCC is:

DIO+ DSO + DPO = CCC



CCC results can be used to compare current performance against other similar companies. Potential investors and creditors also use Cash Conversion Cycle results to analyze the efficiency of business operations.

How To Improve Days Inventory Outstanding

As stated earlier, in most cases, a lower DIO is more favorable for a business than a higher one.

If after calculating your days inventory outstanding, you see a need for improvement, there are ways to improve your days inventory outstanding results.

- ## Use Technology

Keeping track of inventory manually is time-consuming and ripe for errors.

Instead, opt to use an automated inventory management system that can streamline the entire inventory process, including the ability to track inventory levels, identify both best-selling and slow-moving products, and manage inventory reorders more efficiently.

- ## Manage Your Supply Chain

If you have to choose between a supplier that ships materials immediately and one that takes weeks to ship, which one would you choose?

Delays in shipping mean delays in finishing your products, which in the end means delays in offering those products for sale.

The longer you wait for an order, the longer it will take to get that inventory ready for sale. You can also switch to just-in-time inventory, which is where you order only when needed.

- ## Forecast More Accurately

The ability to accurately forecast inventory movement reduces or eliminates the chances of excess inventory.

Using the right technology also allows you to review historical inventory movement, inventory value, forecast customer demand, review market trends and replace inventory timely.

Optimizing inventory also reduces the possibility of running out of stock, which results in lost orders.

- ### Get Rid of Slow-Moving and Obsolete Inventory

  Pausing ordering on slow-moving stock helps to prevent an overstock issue.

  And if you're stuck with numerous products that aren't moving, consider implementing sales strategies like discounts and two-for-one sales to get the product out of the door.

Days Inventory Outstanding Is a Key Piece in Managing Inventory

To be successful, it's necessary for business owners to manage their inventory properly.

That starts with calculating your days inventory outstanding.

But for a more accurate and complete picture of your business, DIO should always be coupled with other accounting ratios such as the Inventory Turnover Ratio and

the Cash Conversion Cycle.

But the best way to manage your inventory is to modernize your company's inventory management process.

If you're still using an inventory management system that utilizes manual processes like Microsoft Excel, consider moving to an automated inventory system, which makes it much easier to see exactly how your inventory is performing.

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