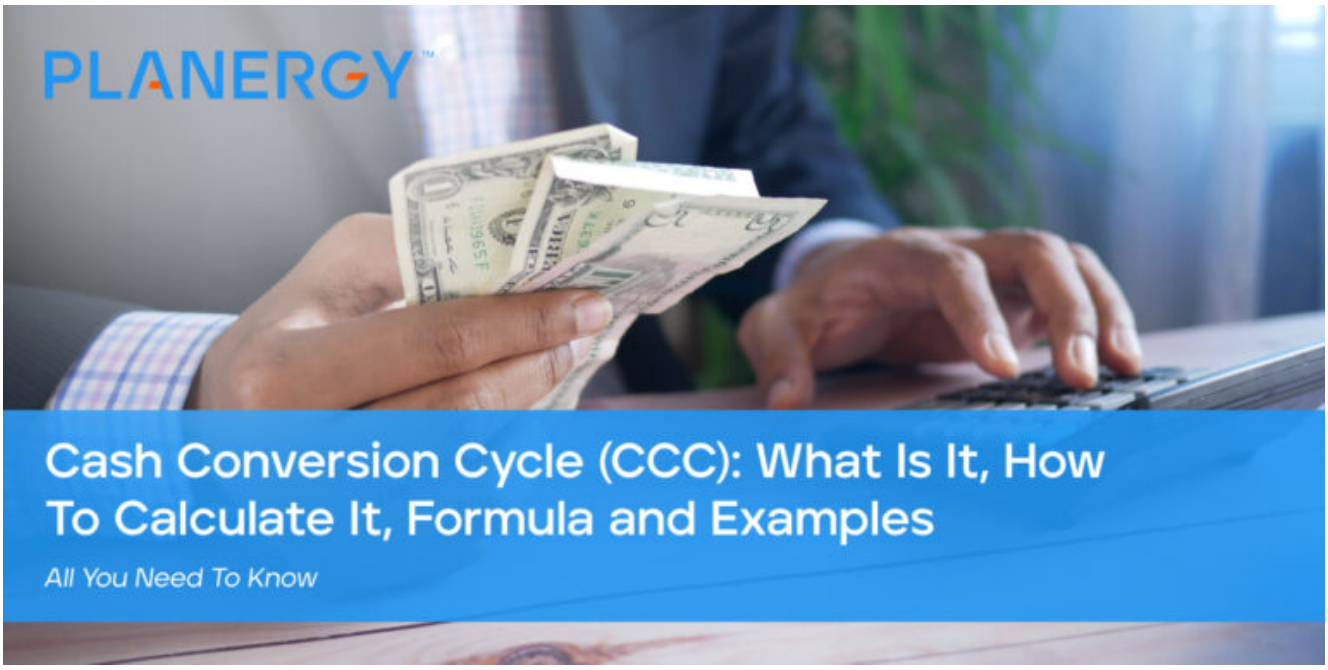
Cash Conversion Cycle (CCC): What Is It, How To Calculate It, Formula and Examples



IN THIS ARTICLE

Better decision-making for your business starts with adequately measuring financial performance.

Whether you earn $50,000 or $50 million in revenue annually, knowing and understanding financial metrics can help you make better business decisions.

For businesses that manage inventory, one of the most useful financial metrics or KPI to measure is the Cash Conversion Cycle.

This metric, sometimes known as the net operating cycle, measures how long dollars spent on inventory and supplies are tied up before they are converted into cash received.

Though the CCC is one formula, it measures three distinct phases of the cash conversion cycle:

- The amount of time it takes to convert your existing inventory into cash
- How long it takes your business to collect on its accounts receivable balances
- How quickly you are paying your vendors and suppliers

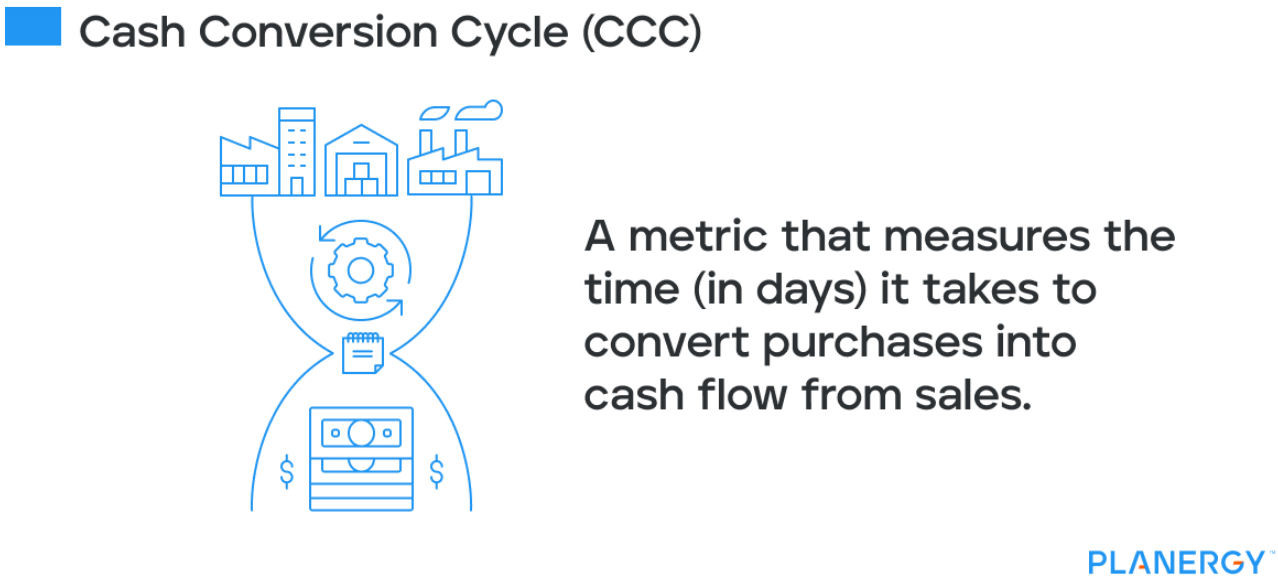
Each one of these separate calculations offers important insight into your business operations and how efficiently you're using your working capital.

What Is the Cash Conversion Cycle?

The cash conversion cycle (CCC) is an accounting ratio that measures the time, in days, that it takes to convert purchases into cash flow from sales.

This is the time it takes to purchase goods, raw materials, or supplies, turn them into a saleable product or service, sell that product or service to customers, and collect payment on the goods or services sold.

In general, a lower CCC indicates that you're taking less time moving inventory, your sales process is operating efficiently, and you have generous payment terms from your vendors and suppliers.



What Does the Cash Conversion Cycle Measure?

The cash conversion cycle measures the length of time it takes to convert inventory and supply investments into cash.

CCC can be used to measure the overall efficiency of a business and works best when calculated regularly to spot trends or compared with the CCC of similar businesses.

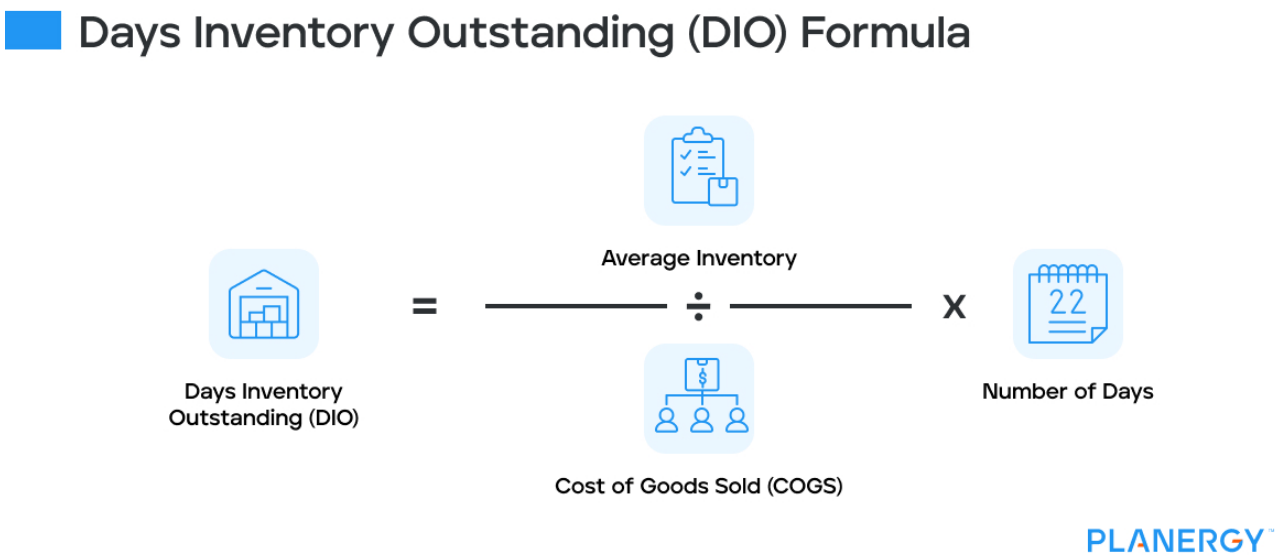
The cash conversion cycle uses three metrics in its calculation:

Days Inventory Outstanding

Days Inventory Outstanding or DIO measures the number of days it takes to turn inventory into sales.

To measure days inventory outstanding you can use the days inventory outstanding formula:

Days Inventory Outstanding (DIO) = Average Inventory / Cost of Goods Sold (COGS) x Number of Days



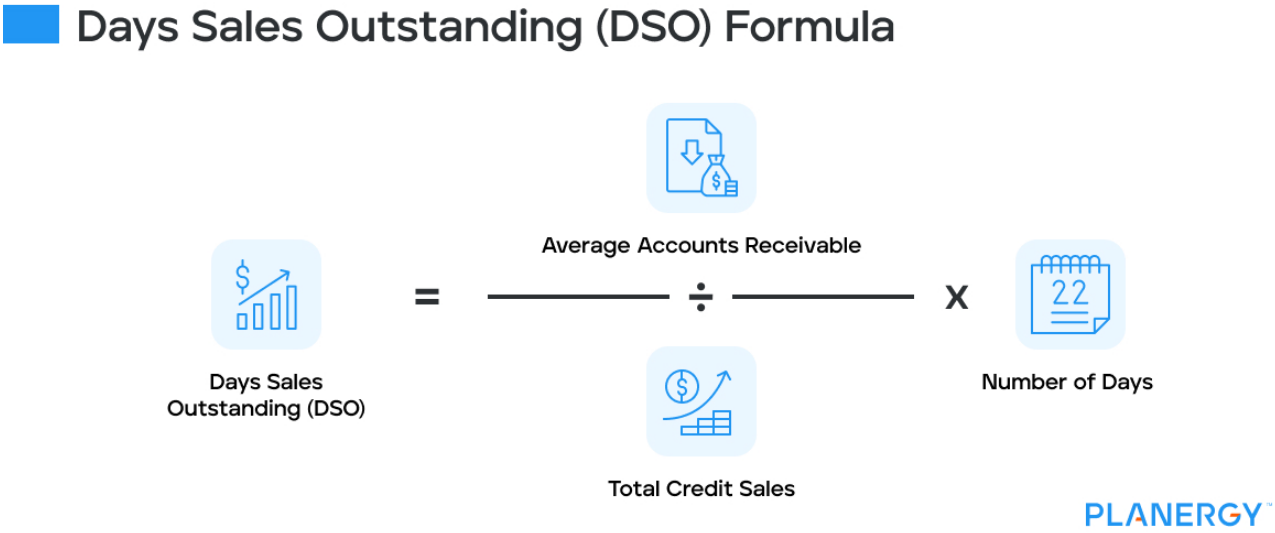
For DIO, a lower number is better.

Days Sales Outstanding

Days Sales Outstanding or DSO measures the number of days it currently takes your business to collect on its accounts receivable balances.

To measure days sales outstanding you can use the days sales outstanding formula:

Days Sales Outstanding (DSO) = Average Accounts Receivable / Total Credit Sales x Number of Days



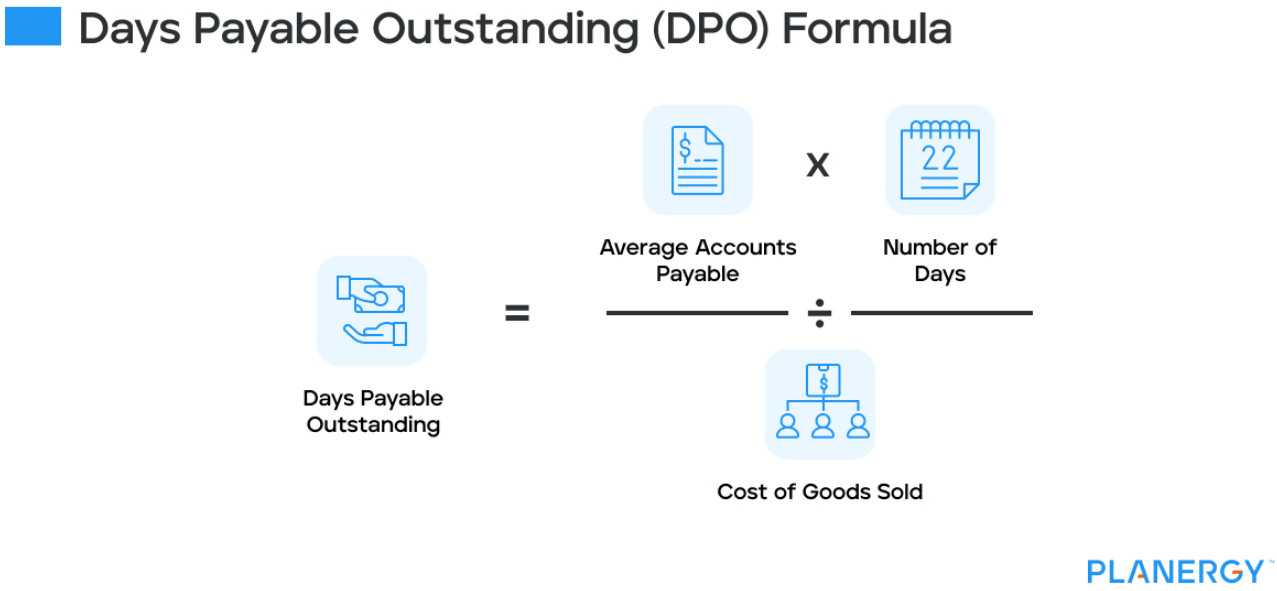
For DSO, a lower number is better.

Days Payable Outstanding

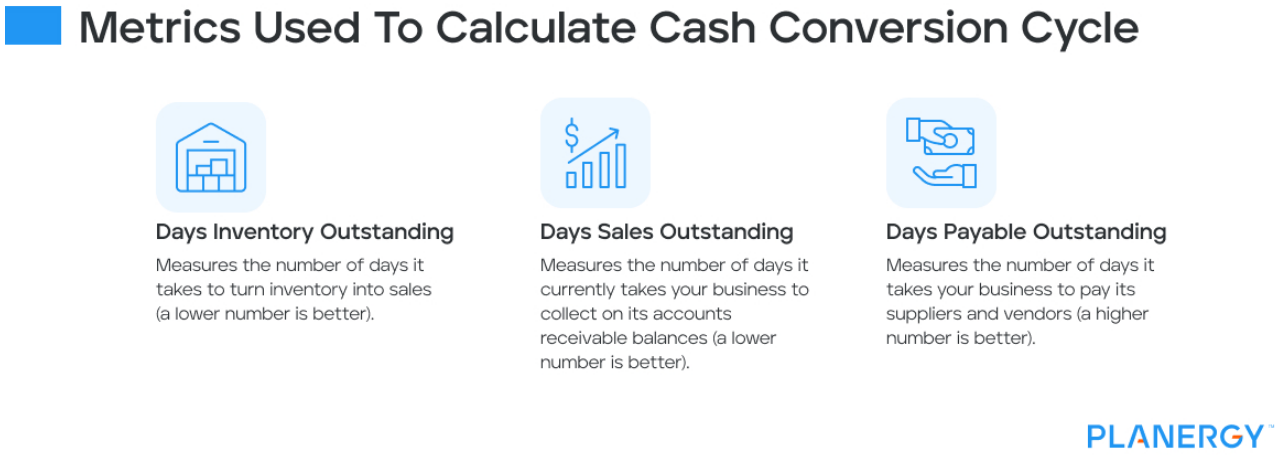
Days Payable Outstanding or DPO measures the number of days it takes your business to pay its suppliers and vendors.

To measure days payable outstanding you can use the days payable outstanding formula:

Days Payable Outstanding (DPO) = Average Accounts Payable X Number of Days / Cost of Goods Sold (COGS)



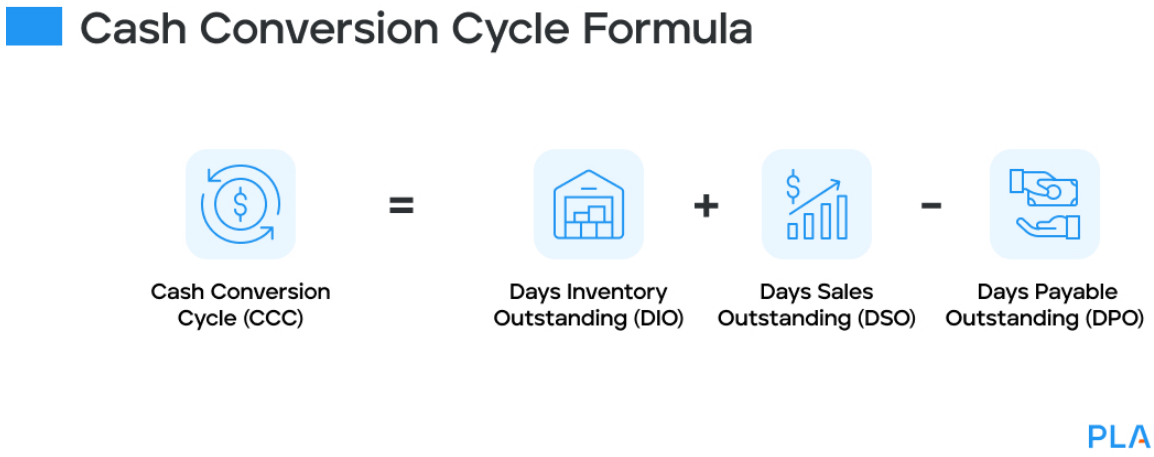
For DPO, a higher number is better.



What Is the Cash Conversion Cycle Formula?

Measuring the cash conversion cycle may sound intimidating, but the process is easy. The cash conversion cycle formula is:

CCC = DIO + DSO - DPO



Before you can calculate the cash conversion cycle, you first have to calculate Days Inventory Outstanding, Days Sales Outstanding, and Days Payable Outstanding.

Once you complete these initial calculations, you will then use those results in your CCC calculation.

To complete these calculations, you'll need to have access to beginning and ending balance sheets and income statements for the period that you're calculating.

For example, if you're calculating CCC for 2022, you'll need a beginning and an ending balance sheet and income statement for the period.

What Is an Example of the Cash Conversion Cycle?

We'll calculate the cash conversion cycle for Ron, who owns a manufacturing company that sells wire harnesses that are used in airplanes.

Ron is worried that it's taking too long to get his completed wire harnesses to customers, so he decides to calculate his CCC for 2022. The entire process will take four steps.

Note that all of the calculations below are using 365 days as the multiplier. This is because Ron is calculating the CCC for the entire year.

If he were to calculate CCC quarterly, he would use the number of days in the quarter as the multiplier.

1. Calculate Days Inventory Outstanding

The formula for calculating DIO is:

Average Inventory / COGS x 365 – DIO

This calculation takes two steps. First, Ron will need to calculate his average inventory for 2022. He can look at his income statement for his beginning and ending inventory balances to get his average inventory.

For Ron's company, the beginning inventory total was $95,000 while the ending inventory balance was $104,000. Ron's total cost of goods sold (COGS) for the year was $615,000. Ron will calculate his DIO as follows:

($95,000 + $104,000) / 2 = $99,500 Average Inventory Cost

Now that Ron has his average inventory cost, he can calculate DIO.

$99,500 / $615,000 x 365= 59.05

This result means that it took Ron 59 days to turn his inventory into sales in 2022. A lower DIO value is best since it indicates that inventory turnover is faster, which means increased sales.

A higher DIO can indicate that it's taking too long to convert inventory and other supplies into a saleable product.

2. Calculate Days Sales Outstanding

The formula for calculating DSO is:

Average Accounts Receivable / Total Credit Sales x 365 = DSO

Days sales outstanding or DSO is an important metric even if you don't calculate CCC since it measures the number of days it takes for you to collect on accounts receivable balances.

Like DIO, calculating DSO is a two-step process. First, Ron needs to calculate his average accounts receivable balance for the year.

In this case, Ron's beginning accounts receivable balance was $75,000, with an ending balance of $87,000, with both obtained from his balance sheet. His total credit sales for the year are $870,000.

But before he can calculate DSO, he'll need to find his average accounts receivable balance.

($75,000 + $87,000) / 2 = $81,000 Average Accounts Receivable Balance

Now, Ron can calculate his DSO:

$81,000 / $870,000 x 365 = 33.9

This means that it's taking almost 34 days for an invoice to be paid. Ron's result is fairly good, but again, a lower DSO is better, since the lower the result, the quicker your customers are paying you.

3. Calculate Days Payable Outstanding

The formula for calculating Days Payable Outstanding or DPO is:

Average Accounts Payable / Cost of Goods Sold x 365 = DPO

DPO is another important metric for businesses to calculate, independent of the CCC.

Days payable outstanding (DPO) is the average time it takes to purchase and pay suppliers, creditors, and vendors. Again, calculating DPO is a two-step process.

For 2022, Ron had a beginning accounts payable balance of $91,000 with an ending balance of $84,000. His cost of goods sold, which we mentioned earlier, was $615,000.

($91,000 + $84,000) / 2 = $87,500 Average Accounts Payable.

Now, Ron can calculate his DPO:

$87,500 / $615,000 x 365 = 51.93

That means that it takes Ron nearly 52 days to pay his suppliers and vendors.

Unlike the first two calculations, a higher DPO is optimal, because the longer it takes to pay your accounts payable balances, the better your cash flow management.

4. ## Calculate Cash Conversion Cycle

Now that Ron has calculated the days inventory outstanding, days sales outstanding, and days payable outstanding, he's ready to calculate the cash conversion cycle using the CCC formula.

DIO + DSO – DPO = CCC

59.05 + 33.9 – 51.93 = 41.02

This result means that Ron's business is taking 41 days to turn inventory into cash.

What Does the Cash Conversion Cycle Tell You About a Business?

The cash conversion cycle tracks three main components for earning a profit; inventory movement, customer sales, and accounts payable.

When all three are factored together, you get a better sense of how efficient your business and where you may need to make improvements.

The cash conversion cycle is also a useful metric for comparing business efficiency and performance against similar companies.

For example, if you manufacture complex machinery, you'll want to compare your CCC against similar companies to see if your performance is standard, or if you lag behind your closest competitors.

The CCC metric can also be useful for potential investors and creditors.

For example, a lower cash conversion cycle result indicates that your business is operating efficiently across the board.

On the other hand, a higher cash conversion cycle result means that you're unable to quickly convert your inventory into cash, or if your inventory movement is good, can indicate that your accounts receivable balances are not being collected in a timely fashion.

Can You Have a Negative Cash Conversion Cycle?

It is possible to have a negative cash conversion cycle result. This occurs when inventory is sold before the supplier has to be paid.

For example, e-commerce retailers like Amazon often have a very low or negative CCC because they move inventory in days and their customers pay immediately.

Amazon also allows third-party sellers to sell goods and receive payment through their online platform. In these cases they may retain payment for the sale for a number of days after the sale has been completed.

What Are the Benefits and Drawbacks of Tracking the Cash Conversion Cycle?

One of the biggest benefits of calculating CCC for your business is being able to use the results obtained in the three steps before calculating the cash conversion cycle.

First, by measuring inventory movement or DIO, you're able to see how quickly purchased supplies and inventory are sold.

The next portion of the CCC calculation, days sales outstanding or DSO, indicates how quickly your customers are paying you for the products you sold.

Finally, the DPO, or days payable outstanding gives you an idea of how long it's taking you to pay your bills.

All three separately give you insight into business operations and efficiency. When combined with the CCC calculation, you'll have a better idea of how efficiently your business can turn inventory into cash.

Of course, if your business does not move a lot of inventory, CCC results won't be as useful.

If that's the case, you may want to consider calculating standard ratios such as a quick ratio, current ratio, accounts receivable ratio, or liquidity ratio to get a better idea of how well your business is performing.

How Does Inventory Turnover Affect the Cash Conversion Cycle?

Measuring inventory movement is part of calculating the cash conversion cycle, so inventory movement would directly impact the results.

A faster inventory turnover decreases the cash conversion cycle results, while slower inventory movement would increase your cash conversion cycle results.

Using Ron's results above, he may find it useful to look for ways to sell products faster, since slower inventory movement is what's driving his CCC results up.

Using the Cash Conversion Cycle in Your Business

If you move a lot of inventory in your business, calculating the cash conversion cycle can be useful.

This metric can provide a lot of insight into business performance and operational efficiency, including how quickly you're able to sell your inventory, how quickly you're able to collect accounts receivable balances from your customers, and how long you're able to hold onto cash for potential investments.

If you do choose to calculate the CCC for your business, this metric must be calculated regularly, since comparing prior results is more useful than calculating the metric a single time.

CCC can also be used to spot trouble areas and make any necessary changes and can be particularly useful when comparing your CCC results against your competitors.

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