Managing inventory

Inventory (or stock) is any goods or materials you hold to create value for your customers — such as products they’ll buy, or the things you need to make those products. Find out the pluses and minuses of holding inventory, and how to order inventory wisely to save money or free up cash flow.

Holding inventory has pros and cons

Inventory could include anything from raw materials to finished products. Your inventory could consist of things your business makes, or things you order from someone else.

Holding inventory can help you serve your customers better, and it can help you maximise profits and lessen risk. However, holding inventory also has other implications. It’s important to think through the pros and cons.

Pros

Pros of holding raw materials.

- You always have everything on hand to make your products.
- You can quickly respond to changes in demand.
- You’re less affected by supplier delays or stock outages.
- You can take advantage of price changes and bulk discounts.
- You can reduce admin time and costs by making fewer orders.

Pros of holding completed products.

- You never miss out on a sale.
- Your customers don’t have to wait.
- You can go on sale quickly to increase cash flow or challenge competition.
- You can make good use of quiet times by preparing and storing what you’ll sell in busy times.

Cons

Cons of holding inventory.

- You tie up working capital, meaning less cash for other things.
- You need to pay the cost of storage and insurance.
- You’re responsible if anything gets damaged.
- You’re responsible if anything becomes obsolete — for example, due to changes in fashion or technology.
- You may need to keep records and conduct stocktakes.

Would your business benefit from inventory?

If you’re not sure whether your business would benefit from inventory, consider the following things.

How valuable are your items to your business?
Some raw materials or completed products are more important to hold as inventory than others. High-value items might be crucial to hold as inventory, but you may prefer to stock less or none of your low-value items.

To decide which items to hold, categorise them by value.

- High-value items — the 20% of items that generate around 80% of sales.
- Medium-value items — the 30% of items that generate about 15% of sales.
- Low-value items — the remaining 50% of items that generate only 5% of sales.

**Are you making to stock or making to order?**

If you can accurately forecast customer demand — or you’re consistently matching customer demand — you might consider a make-to-stock model. This is when you make and hold items as inventory so you can always meet customer demand.

Alternatively, if you’re usually creating bespoke or customised items, you might consider a make-to-order model. In this case, you can’t really predict customer demand, so you probably can’t hold many (or any) completed products. You may need to hold fewer raw materials too.

Not sure which production model works best for your business? Use our tool to assess your current production profile and how it serves customer needs.

Size up your production (/business-performance/operations-strategy/ensuring-capacity-matches-demand/#e14946)

**Are you selling products or services?**

Most businesses provide a mixture of products and services (whether they realise it or not). You probably do too. Understanding exactly what you’re selling may help you decide whether inventory is useful for your business. Use our tool to reflect on the product and service elements of what you provide, and where the most value is.

Are you providing a product, a service or a mix of both? (/business-performance/operations-strategy/operational-efficiency-and-innovation/#e14816)

**Inventory can be the largest asset that some businesses own.**

**Case study**

**To stock or not to stock?**

Te’s Tees prints designs onto tee shirts and sweatshirts. They also sell hats with their logo printed on them. This year, the team discusses the pros and cons of printing a year’s worth of hats in their quietest month and storing them in their workshop.

**Pros**

- They can get a bulk discount on the plain hats (which they then print onto) if they buy them all at once.
- It’s more efficient to print all the hats at one time, rather than in batches.
- They won’t run out of printed hats, so they won’t have to make customers wait.
- With all the hats done, they can focus on tee shirts and sweat shirts for the rest of the year.

**Cons**

- Buying all the hats at once is a big outlay (even though they’re discounted), meaning less cash is available for other things.
- The hats take up quite a bit of storage space.
- There’s a risk of the hats going mouldy while in storage for long periods — they’ll need to check if this is covered by insurance and decide how to address the risk.
- The demand for the hats might drop off, leaving them with a pile of hats they can’t sell.
The team sees just as many cons as pros, so they need to do more research. They decide to do some forecasting and modelling to make sure their plan stacks up before they invest in it.


Calculating demand, and the cost of ordering and holding

If you do decide to hold inventory, it’s important to know how much to hold and how much it will cost you. Too much or too little inventory can be expensive. Ordering wisely can save you money or free up money for other things. It can also save you time and effort.

To order wisely, you first need to calculate:

- the **annual demand** for the inventory
- the cost of **ordering** the inventory
- the cost of **holding** the inventory.

Once you’ve done your calculations, use the tool further down this page to find out the best amount of inventory to order each time. The tools shows you the best balance between having enough stock and keeping your costs low.

**Annual demand**

Annual demand means the amount of inventory you’ll need each year to satisfy your customers. Calculate demand for a specific inventory item by looking at your sales data. How much of that item did you use in the last 12 months? Do any trends exist? Are you likely to need more or less of that item in the coming 12 months? Factor in anything that might affect sales, such as more marketing, reduced opening hours, or new competitors.

[Measuring current demand (/business-performance/operations-strategy/ensuring-capacity-matches-demand/#e15069)]

[Predicting future demand (/business-performance/operations-strategy/ensuring-capacity-matches-demand/#e15183)]

**Ordering costs**

Ordering costs include both time and money invested in ordering and handling inventory. For example:

- time to place the order
- time to track the order
- time to receive the order
- time to put the order away
- admin fees from the business you place your orders with
- the cost of shipping the items to you
- the cost of any insurance needed for the shipping process.

Calculate any time costs in dollar terms (based on the hourly rate of the staff members doing the ordering).

**Holding costs**

Holding costs include:

- rent for the space to store the inventory
- the cost of insuring the inventory
- interest on borrowing money to buy the inventory
- the cost of any inventory that gets damaged or goes out of date.

You may feel that storing your inventory doesn’t really cost you anything, because you had some free space already.
But think about what you could be doing with that space if you didn’t use it for inventory. You might be able to do something significantly more valuable with it. Try listing all the possible ways you could use the space to provide value for your customers. Could you make money from it? If so, how much? Space used to store inventory does cost you — both in dollars and in opportunities.

Ordering the right amounts, at the right times

This tool will help you calculate the best amount of inventory to order each time. You can use the tool for anything you order regularly.

You’ll need to gather some information before you start:

- the total units of inventory you think you’ll need for a year (annual demand)
- how much it costs you to place each order
- how much it costs you to hold the inventory.

The tool will use your information to calculate the best amount to order. You can also use the tool to explore the effect of changes to your order size. This tool will give you the savings you could make in dollar amounts if you order the best amount of inventory and also tell you the impact of this change on your cash requirements.

EOQ Loading...

Optimising inventory orders can free up money for other things.

Case study

How many coffee beans to order, and when?

Aroha is reviewing how many bags of coffee beans she should ask for each time she places an order for her café. She’s realised that placing lots of small orders increases her ordering costs. But placing large but less-frequent orders increases her holding costs.

Aroha calculates demand, ordering costs, and holding costs, then uses our tool to work out the best amount of coffee beans to order each time.

Aroha calculates her demand

Aroha looks at last year’s sales figures and sees that her café needed about 1,000 bags of coffee beans to meet the demand for the coffees her customers bought. Her business is fairly steady, so she estimates that demand will be similar this year to last year.

Aroha’s demand = 1,000 bags per year.

Aroha calculates her ordering costs

Aroha then looks at delivery costs and admin costs. She also looks at the time it takes to place and handle an order and how much that costs in wages.

- Aroha’s supplier charges $8 for each delivery, including insurance.
- Aroha pays a fee to her supplier for the ordering software.
- She works out that every order she places and tracks using the software costs $2.
- Aroha calculates the time it takes her employee to place and handle the order.
- The dollar amount in wages is $5 per order.

Aroha’s total ordering cost = $15 per order.

Aroha calculates her holding costs
Aroha looks at the area used to store coffee beans. It’s about 2% of the café’s footprint. Aroha pays $100,000 in rent every year, so total coffee bean storage is $2,000 per year (2% x $100,000 = $2,000).

To work out how much it costs to hold a single bag of beans as inventory, Aroha divides the 1,000 bags of coffee beans (her annual demand) by the $2,000 storage. This works out to $2 per year to hold each bag.

If she hadn’t used the space for inventory, Aroha could have used the space for another table for customers. She calculates that missed sales opportunities her $3,000 per year. This works out to $3 per year to hold each bag.

Aroha also calculates that she spends $1,000 per year replacing inventory that gets damaged or goes out of date. This works out to $1 per year to hold each bag.

Aroha’s total holding cost = $6 per bag per year.

**Aroha puts her calculations into the tool**

Aroha currently orders 200 bags of coffee at a time, meaning she places 5 orders every year. Each bag of coffee costs her $50. The tool shows Aroha that the best amount to order each time is 67 bags. She’ll need to order more regularly — 15 times a year — but she’ll save $249 a year in ordering and holding costs.

More importantly, the tool shows that ordering wisely frees up $6,773 in cash. Because Aroha doesn’t need to hold this money back for her next order, she can use it for other things.

The tool also shows Aroha when she needs to reorder (her reorder point). It takes 3 days for ordered beans to arrive, and Aroha needs 3 bags of beans as a buffer in case the beans are delayed. The tool shows her that she needs to reorder when she has 12 bags of beans left.

Note that the tool and this case study use rounding where needed.
Find out how to spot the right time for efficiency and innovation and how to get started.  
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Ensuring capacity matches demand  
Fine-tune your capacity to make the most of sales opportunities and minimise waste.  
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Quality matters  
Understand it and make it part of your business. Save time and money, cut waste, and improve your brand.  
Learn more  
Knowing your networks  
Understand it and make it part of your business. Save time and money, cut waste, and improve your brand.  
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