An inventory planner's guide to managing inventory with seasonal demand

An EazyStock guide to seasonal demand forecasting.

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Introduction to seasonal demand

Seasonal demand for inventory is when an item experiences peaks and troughs in its demand at certain times of the year.

Seasonality in inventory planning can occur for many reasons; for example, an item may typically be sold during a festival, such as Christmas or Diwali, or predominantly used during warm weather (like sunscreen or patio furniture) or over colder months (like skiwear or de-icer).

Whatever the reason for the seasonality, there is one constant: seasonal demand can be difficult to forecast and navigate.

The importance of managing seasonal items

Seasonal spikes in demand affect every part of the supply chain, so it's important to manage them as accurately and proactively as possible.

Retailers and B2C resellers: need to carry accurate amounts of stock to meet customer demand.

Distributors: need to order in plenty of time from their suppliers - especially if there are long lead times.

Manufacturers: need to be ready to increase production or have stock available for a sudden increase in customer orders, especially if they service multiple businesses with the same product requirements.

Effective inventory management can be critical for many businesses in the lead-up to and during seasonality phases. During these peak periods, a lot of revenue can be on the line. In some cases, seasonal items can account for over 50% of a company's total annual sales!

It's, therefore, essential to have enough of the right stock in the right place to make the most of your key sales periods. Stock-outs at this time could lead to a loss of revenue and unhappy customers. Back ordering your best sellers can be costly and stressful or, depending on lead times, impossible.

At the same time, you don't want to end up with excess stock after the surge in demand. Surplus stock could remain in your warehouse until the following year, tying up working capital and negatively affecting your inventory turnover.

Managing seasonal stock is, therefore, a delicate balancing act. Let's look at some best practice approaches.

How to manage seasonal items

If you manufacture or sell seasonal goods, it's vital that you manage their demand effectively to ensure adequate stock levels at all times.

Here are five key processes you should follow.

1. Identify which products are affected by seasonal demand

Start by identifying which of your stock-keeping units (SKUs) are subject to spikes in demand at certain times of the year. This can be done by analysing previous demand data and looking for annual patterns.

Be sure to look over more than one year's worth of data to clarify that the pattern is seasonal, and not a one-off trend.

The graph below shows a typical seasonal demand pattern. The dramatic spikes in Q3 are indicative of the kind of demand variation seasonal items are subject to.
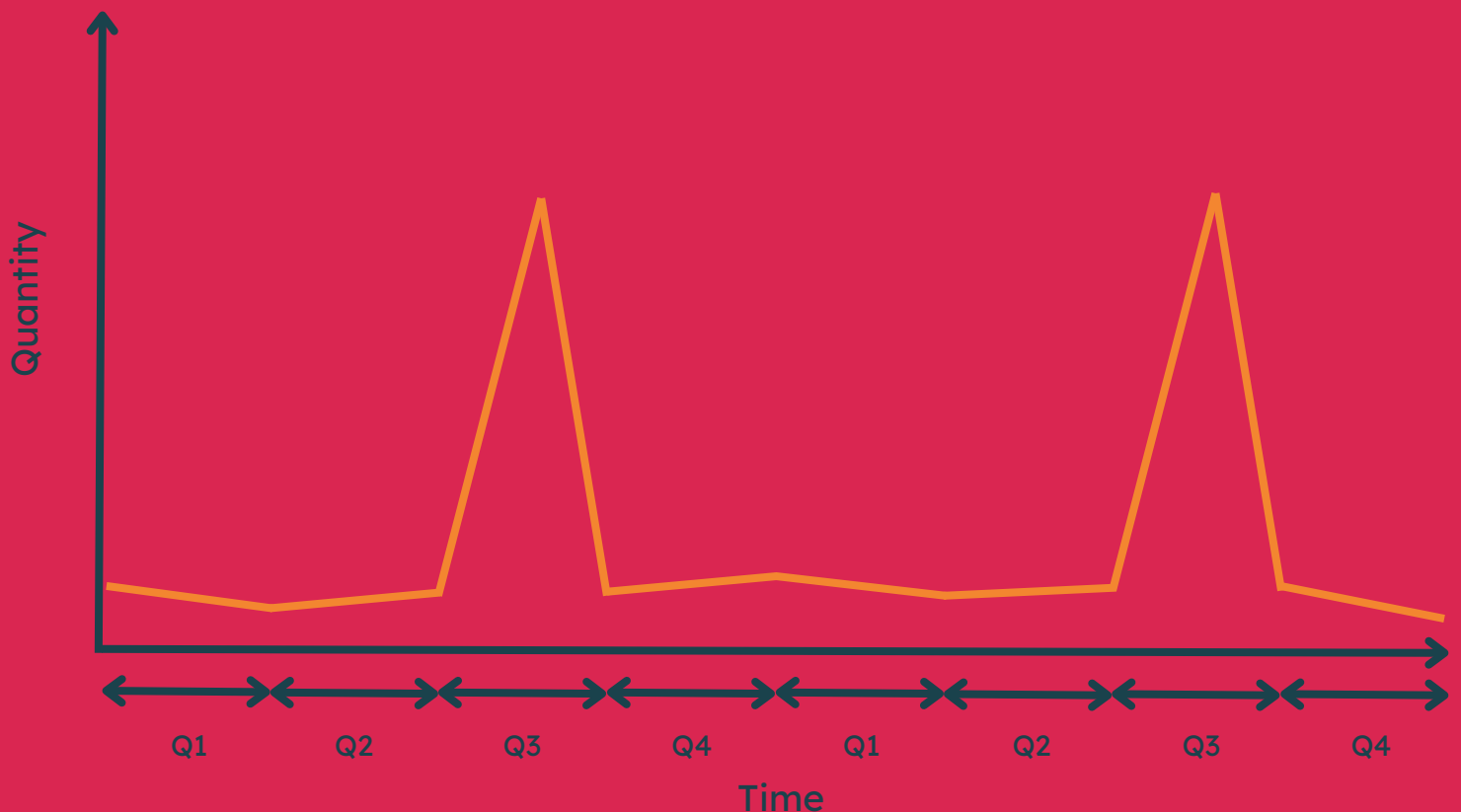
2. Understand when the peaks and troughs will happen

Once you have a group of seasonal SKUs, you need to work out when their demand season is. That is, when can you expect customer demand to rise and then fall?

3. Accurately forecast the relative size of those peaks compared to normal demand

Calculate the typical demand during the "off-season" and what it is for the peak season. Again, to do this, you need to use past demand data. For example, maybe for nine months of a typical year, you sell, on average, three cans of de-icer per month, but then for the remaining three months, you sell around 50 per month.

This will help you determine what your stock levels should look like throughout the year as the demand varies.

Try and look for any long-term demand trends too. For example, has demand for the de-icer changed over the past five years, e.g. peak demand in year one was 54 cans per month but fell to 46 per month by year five. Again, factoring in long-term trends will help provide a more accurate forecast.

4. Understand the level of uncertainty associated with your seasonal demand forecast

Even with a substantial number of years of data, unknown demand fluctuations can still occur. For example, if you forecast to sell 46 cans per month between October and December, but the area has an unseasonably warm winter, you may end up with excess stock at the end of your peak period.

5. Incorporate lead times and safety stock levels when setting order points and order quantities

Once you've calculated your demand, you must also consider your supply variables. Knowing your supplier or manufacturing lead times is particularly important if they are long, as it will be almost impossible to replenish fast-selling items. Make sure you add lead times into your ordering and replenishment calculations for each SKU. You may want to incorporate buffer (safety) stock to cover lead times and help alleviate stock-outs risk.

It can be overwhelming to comb through the demand history of each item you stock, identify those with seasonal demand, create accurate forecasts and factor in lead times and safety stock. If done manually, this process undeniably takes time and is subject to calculation errors and the need for continual updating.

Fortunately, an inventory optimisation tool can do all this for you!

Inventory optimisation software and seasonal demand forecasting

As previously discussed, the first step in managing your seasonal items effectively, is identifying which of your SKUs adhere to seasonal demand patterns.

EazyStock can do this automatically, analysing each SKU's demand history and looking for the same pattern year on year. It then correlates items with the same demand patterns, assigning a seasonal profile so they can be managed in the same way.

Assigning a seasonal profile allows you to identify which items need to be ordered in time for their seasonal peaks.

Creating order calendars

With your demand forecast in place, you now need to consider how to fulfil the orders – cost-efficiently and on time. This includes your business's ability to place and receive orders regarding resources and staff, and your suppliers' ability to deliver those orders as required.

Fortunately, this can be easy to manage with an inventory optimisation tool that can set up order review calendars, receiving calendars and supplier calendars.

First, let's look at managing the risk around your suppliers' fulfilment capabilities. Factoring in supplier availability and lead time disruptions adds a new layer of complexity to seasonal order management.

For example, if you're creating a calendar for a certain manufacturing supplier, you can exclude dates when they are shut down for national holidays (such as Chinese New Year). EazyStock then knows it cannot request any orders from this supplier for these days. An updated calendar is built and assigned to the items ordered from that supplier. The system then automatically adjusts the lead times and order points to cover when your supplier is 'out-of-office'.

With the order triggered early enough for your supplier to be able to fulfil it before they close, you'll reduce the risk of stock-outs as you hit your peak season.

Similarly, EazyStock lets you create order calendars based on your operational capabilities or constraints for ordering and receiving goods, either at warehouse or item level. For example, during busy peak seasons when deliveries can be much larger, you may only want to receive them on certain days of the week when you have more manpower. Or, if you have exceptionally busy periods, such as Black Friday week, you may want to pause any reordering during this time.

In both instances, the system will work around your stipulations and adjust reordering dates, quantities, lead times and buffer stock to ensure you can cover demand.

These scheduling capabilities can also be used for ordinary demand periods, allowing reordering to take place on a consistent day of the week, or large deliveries to be planned around warehouse resources.
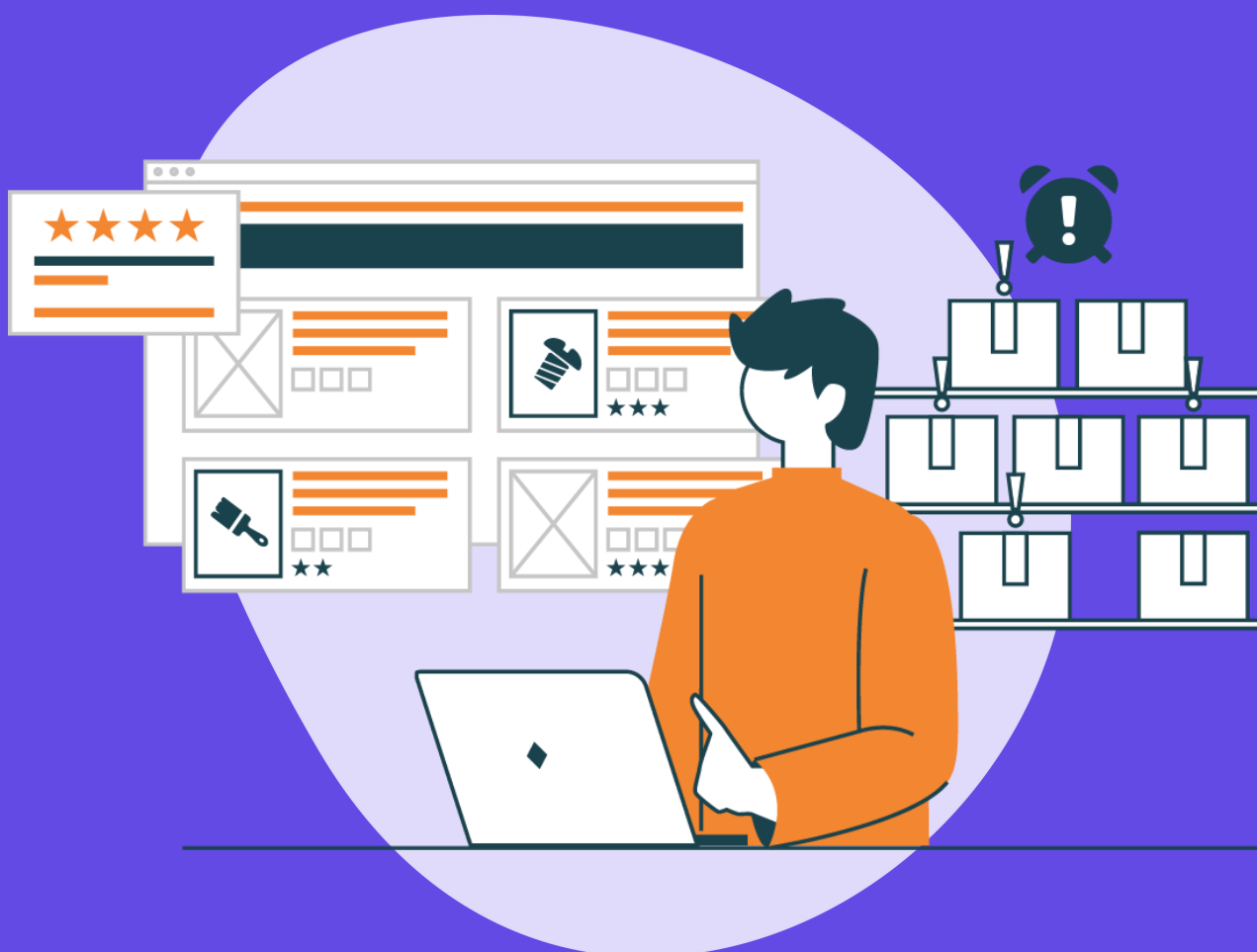
Managing supplier schedules for seasonal items

Items can be seasonal for several reasons, but what doesn't change drastically is when the surge occurs. This means that you can prepare well in advance.

Let's look at an example.

Every year Christmas falls on 25th December. In the preceding weeks, consumer spending for gifts, food and decorations skyrockets, with retailers stocking their shelves from as early as late October. Therefore, their distributors, wholesalers and manufacturers need to plan their order scheduling, working back from this date. This is particularly true when items have long lead times, with some companies having to place orders by the end of May at the very latest.

Therefore, seasonal order planning can be difficult for an inventory manager or purchaser to keep track of without a robust tool.

With EazyStock, seasonal items can be managed much more easily, utilising the order schedule functionality. Since seasonal items follow a similar pattern year after year, businesses can automatically predict their orders in advance and create order schedules for every item. These schedules show the dates that orders need to be placed by and the recommended order quantities, taking into account lead times and potential stock levels.

This graph visualises how the recommended order levels (blue) would look regarding the seasonal demand (orange) – factoring in typical order levels and lead times, along with current stock levels and recommended buffer stock.
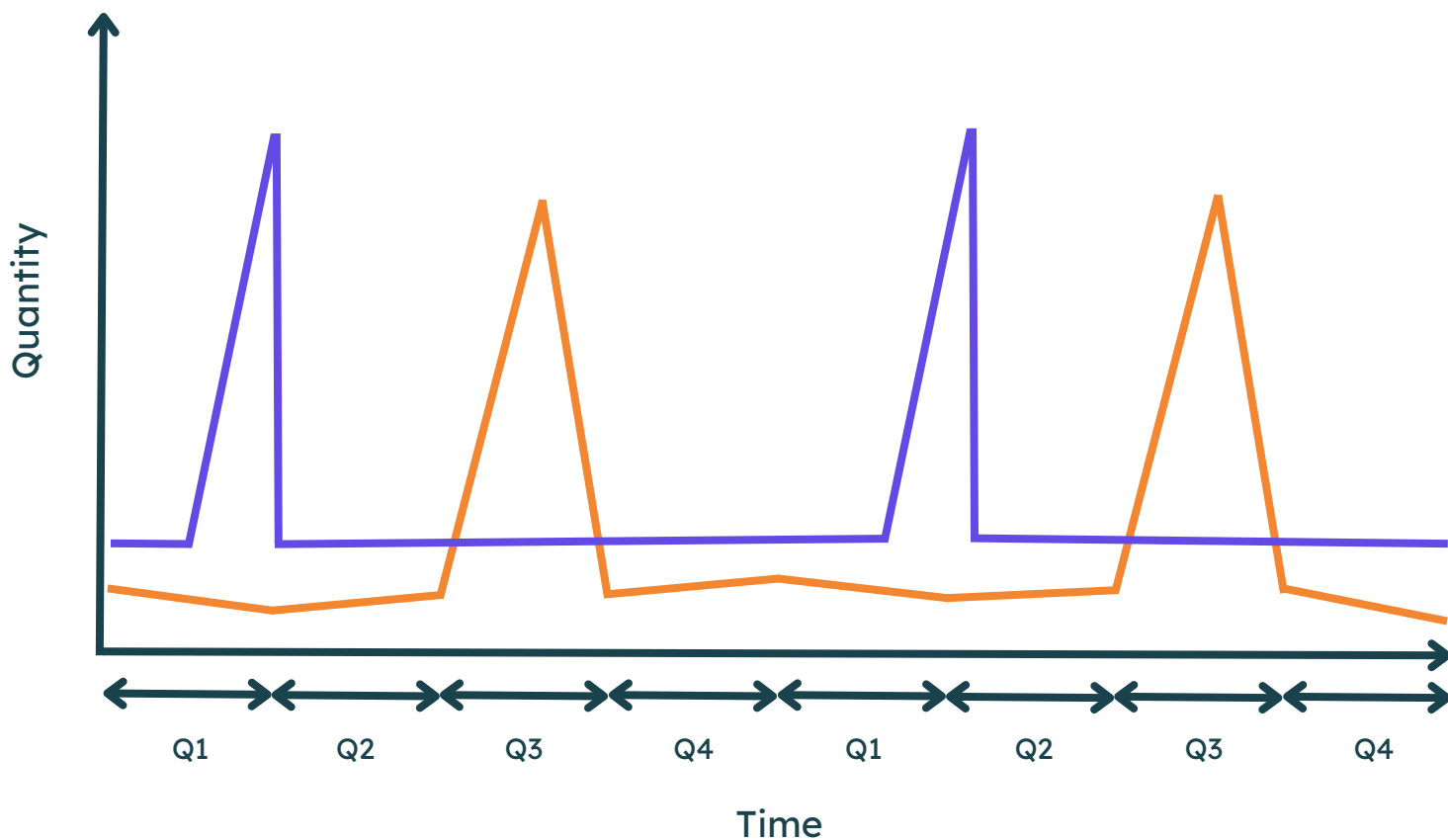
Order schedules are helpful for planning reorder points and quantities and keeping suppliers informed well in advance of your order requirements.

Many suppliers and manufacturers are placing more and more pressure on their customers to provide accurate order forecasts so that they can work leaner and more cost-efficiently. Order schedules give them the information they need upfront so that they can plan their operations, and, in return, you can negotiate the best price and demand their best service.

Summary

Whether annual festivals or the weather drives demand for your seasonal items, seasonality can have a massive impact on your bottom line.

Planning is key to ensuring you have the right stock on the shelves to optimise revenue opportunities and ensure customer satisfaction.

It all starts with accurate seasonal demand forecasting. It's imperative to understand which inventory items are seasonal and adjust forecasting accordingly. But don't forget, of equal importance is understanding your suppliers and factoring in lead times and order constraints for every link in your supply chain.

Assigning seasonal profiles, calculating lead times, and planning order calendars can be time-consuming and unproductive without a system to automatically track, analyse and update each item.

With the help of an inventory optimisation tool, such as EazyStock, your inventory management team will be able to manage seasonal items much more effectively. With automated forecasting and order management functionality, they'll no longer have the headache of dealing with seasonality manually.

Instead, they can proactively prepare for the busy time ahead and reap the rewards of optimised inventory.
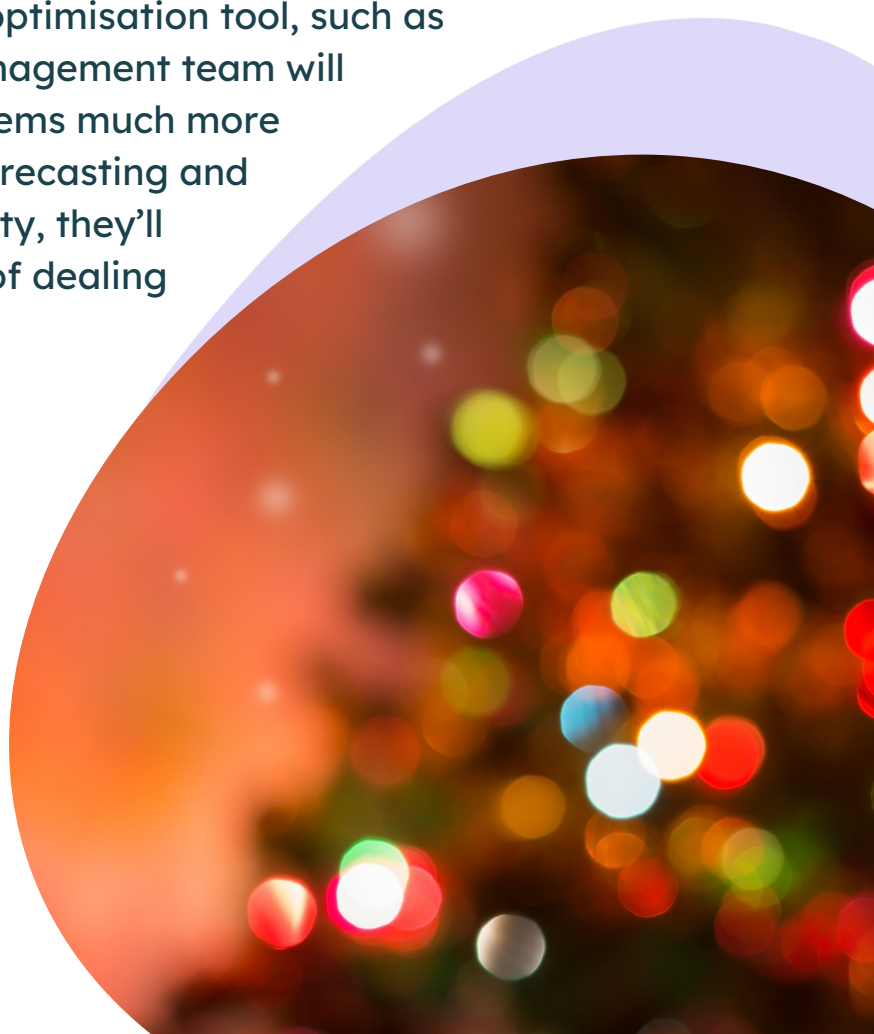
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