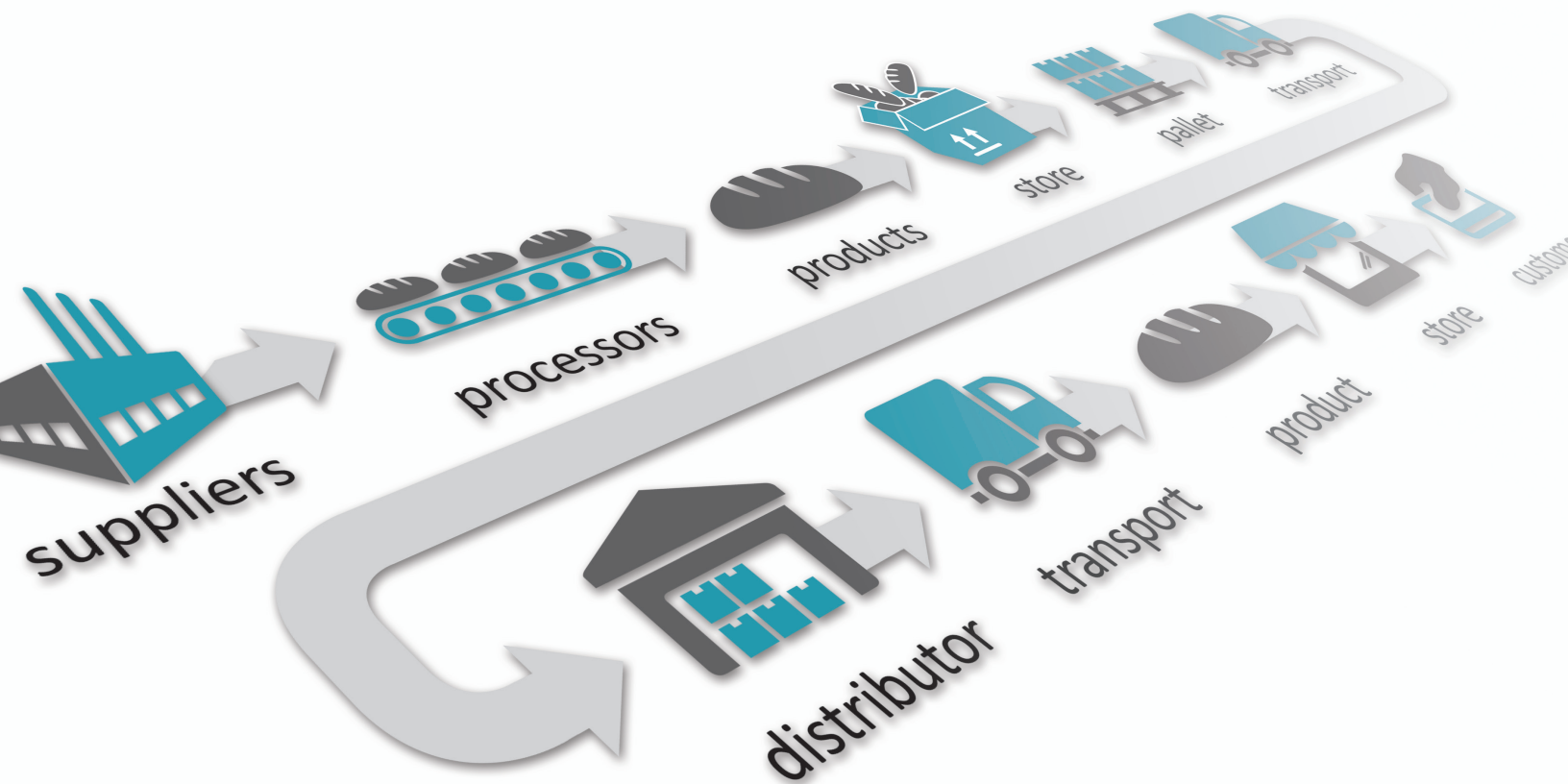


The Definitive Guide to Best Practices in Supply Chain Management for Food Processors

Effective Inventory Management (EIM) and JustFoodERP pair up to bring you Best Practices for the Food Industry.



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The goal of effective supply chain management is to “allow all members of the supply chain to achieve effective inventory management while achieving each partner’s customer service goals.” Many people feel that you cannot achieve both effective inventory management for your organization while helping your partners (i.e., your customers and vendors) achieve their maximum level of success. In this guide we will explore how everyone can benefit if they cooperate and share information, and how this is most easily done through harnessing technology as part of overall best business practices.

Even though selling large quantities of products might help a vendor temporarily increase sales, it would often not result in increasing their long term profitability. Large infrequent customer orders do not maximize the use of a manufacturer’s machinery, manpower, and material. Money is tied up in unneeded inventory, equipment is idle for significant periods of time, and staffing needs continually change. Managing all these processes through technology will help but ideally you want to have a process that does not focus on trying to sell more but trying to project what will be needed and ensuring that you are using your inventory in the most efficient way.

There are also lots of business hiccups, for example taking advantage of vendor offers also can increase a customer’s costs as it also has to acquire inventory before it is needed. This ties up both money and valuable warehouse space. Expiration date issues faced by many food processors adds even more strain to this problem. Remember, no one in the food processing industry is in the antiques business.... your inventory will not appreciate with age. Everyone benefits when you can allow customers to buy smaller quantities, more often.

But supply chain cooperation cannot be successfully accomplished without sharing information. This information includes:

- **Demand forecasts**
- **Anticipated lead times**
- **Safety stock quantities**

Let’s dig deeper into what this information really means to your business:

Demand Forecasts Best Practices

Most organizations base forecast of future customer demand on past sales or usage history. They believe that “what we sold or used in the past is a good indication of what we will use in the future.” But situations change over time:

- **You gain and lose customers**
- **Products increase or decrease in popularity**
- **New products are introduced to the marketplace**
- **Promotions and one-time projects will result in a temporary increase in the demand of a product**

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We can help to compensate for these changes by connecting the supplier and customer links of the supply chain. A vendor can often better estimate how much of a product needs to be available when its customers share actual or projected sales, production schedules or other estimates of product usage. This process is known as collaborative planning, forecasting and replenishment (CPFR) (also known as derived demand).

A supplier can automatically collect CPFR or derived forecasts by downloading information from their customers' retail point of sales (POS) terminals or their manufacturing production schedules. But even if automated data collection is not practical a vendor can still implement an effective CPFR system:

- 1. Identify customers that have the ability to predict what they will sell or use in the future. After all, not all customers can predict what their customers will buy.**
- 2. Collect forecasts of future demand for specific products from these customers**
- 3. At the end of every month compare the customer's estimate of usage for each item to his/her actual purchases**
- 4. Report back the results to the customer to help improve their future predictions of product usage**

Often customers will tend to overestimate their future needs of products. To encourage them to give you the most accurate possible forecast consider offering them a better discount based on the accuracy of their forecasts. After all, if they give you accurate forecasts you should be able to stock less while continuing to meet or exceed your customers' expectations of product availability.

But always remember that only certain customers can give you accurate predictions of their future purchases. You probably need to also consider other information that can be found examining the five elements of an accurate demand forecast:

- Past usage of the product (excluding any usage that results from CPFR information – It is important that you don't count information from a customer twice in your predictions of future demand.**
- Trends – Is usage increasing or decreasing in popularity over time?**
- Seasonality – Is usage predictably higher or lower during certain time of the year?**
- Upcoming promotions or events**
- Industry and market knowledge provided by sales, management and other sources**

Often a "total forecast" will be the sum of collaborative forecasts from certain customers and the results of a formula which utilizes these five elements. Calculating an accurate forecast may seem like a complicated process. But it doesn't have to be. Start by monitoring the accuracy of your current forecasts by using the formula:

The absolute value of (usage – forecast) ÷ The smaller of the forecast or actual usage

Examine those products with a high forecast error (maybe greater than 50%-75%). For each of these items ask:

- **Was usage of the product affected by activity that probably will not reoccur in the future?**
- **Is the product experiencing the start of a new sales trend?**

If neither of these conditions is true you need to look at the information and formula you are using to calculate the forecast and determine if there is a better way to predict future demand of the product. Be sure to share your forecasts with your suppliers. This will help them better predict how much product they need to produce to fulfill your needs.

Anticipated Lead Times Best Practices

Accurate forecasts are an important element in achieving the goals of effective inventory and supply chain management. But you also have to know when to place a replenishment order. Anticipated lead times represent the amount of time it will take you to replenish your inventory from the primary source of supply. Having an accurate forecast and knowing your anticipated lead time will allow you to calculate an order point (or minimum stock quantity) for each item. For example, if you have a forecast of two pieces per day and a lead time of seven days you should reorder a product when there are no less than 14 pieces left in inventory (i.e., 2 pieces per day x 7 days = 14 pieces). If you reorder the product when there are less than 14 pieces in stock you will probably experience a stockout before the replenishment arrives. An accurate lead time is comprised of four elements:

- **The time it takes you to place an order**
- **The time it takes the vendor to process the order and ship the material**
- **The time it takes to ship the material to your warehouse**
- **The time it takes you to prepare the stock receipt for sale or use**

As with the forecast it is important to analyze the accuracy of lead times. Best practice is to utilize a report that informs the appropriate buyer if the lead time associated with a stock receipt that just arrived is:

- **50% greater than the existing anticipated lead time**
- **50% less than the existing anticipated lead time**
- **More than a week early or a week late**

The buyer should contact the vendor to determine if this exceptional lead time was caused by factors that will not reoccur or is representative of how long it will take to obtain the product in the future. This will help ensure that you will place the next replenishment order at the right time. Again, questioning your supply chain partners and sharing information benefits everyone. If a vendor's lead times are continually inconsistent you probably want to see if you can buy similar products from another supplier. Reliable sources of supply are critical for your long term success.

Safety Stock Best Practices

No matter how much effort you put into calculating an accurate prediction of future demand it is still an estimate. There is a chance that you will sell more than you forecast. And there is always a possibility that you will experience a delay in receiving a replenishment shipment. For this reason it is a good idea to maintain some additional inventory or “safety stock”, especially for items that are critical to your customers or operations. Safety stock is reserve inventory maintained to avoid stockouts due to unexpected demand or delivery delays. Calculating the most accurate forecast possible and maintaining anticipated lead times that truly reflect how long it will take to obtain material allows you to keep less safety stock while delivering superior service to your customers.

In fact one of the best ways to determine appropriate safety stock quantities is to base the calculation on the average deviation or “difference” between the forecast and actual usage as well as the average deviation between the anticipated and actual lead times. You will maintain more safety stock for items for which usage and lead times are hard to predict. Products with extremely consistent usage and lead times will require little or no safety stock. Lowering your safety stock quantities reduces your overall inventory investment. The results usually lead to increased profitability and success.

Order Cycles

The formula used to calculate the order point for an item is:

(Demand/Day x Anticipated Lead Time) + Safety Stock

But you cannot always order a product when its net available quantity (i.e., On Hand Quantity – Quantity Committed on Outgoing Orders + Quantity On Order with Suppliers) falls to order below the order point. Why? Because often vendors will have a target order requirement. This is the size order that will provide you with the terms or discounts that allow you to profitably sell or use the vendor's products. Often this requirement is expressed as:

- **A number of pieces or cartons**
- **A monetary amount**
- **Total weight or cubic volume**

The order cycle is the amount of time necessary for your company to sell or use enough of the vendor's products to meet the target order requirement. When you place an order with the vendor you must not only order those products that are at or below the order point, you must include items that will probably fall below the order point before you can place the next target order with the vendor. For example, if a vendor has a 30 day order cycle and you are placing an order with the vendor today, you must include any product that has less than a 30 day supply above the order point. You are being forced to order those products for which net available quantity is above the order point before you really need to. It is easy to see how lengthy order cycles (which result from large target order requirements) will

increase your inventory. Long order cycles will also increase your inventory in another way. If you can only meet a vendor's target requirement every 30 days you must order at least a 30 day supply of each item you obtain from that vendor. *After all, buying a one to two week supply of an item every 30 days will not result in great customer service.*

If you experience extended order cycles work with your suppliers to see if you can receive smaller shipments more often. Perhaps some of your vendors don't realize that filling occasional large customer orders does not maximize the use of their machinery, manpower and material. Machinery that remains idle for long periods of time, large inventories of raw materials and finished goods and personnel that are not totally productive increase any supplier's costs.

Summary

The ultimate goal that every Food Processor shares is to maximize long-term profitability. But this does not have to be accomplished at the expense of your vendors and customers. By working with the best practices for demand forecasts, anticipated lead times, safety stock quantities and harnessing technology, you will be able to form a strong supply chain. A supply chain that maximizes everyone's profitability. After all, obtaining and sharing information is usually much less expensive than maintaining unneeded inventory!

About Effective Inventory Management, Inc.

EIM works with distributors, manufacturers, retailers and service organizations throughout the world. We utilize our proven, comprehensive analysis procedures and tools to make a significant, permanent improvement in your organization's profitability. Our goal is to ensure that you have the right product of the right item in the right location at the right time.

About JustFoodERP

JustFoodERP delivers software to help food processors and food distributors lower inventory costs and improve food safety. We have built a product that takes you where you want to grow, as quickly as your appetite demands. We do this with the latest Microsoft technologies available.