

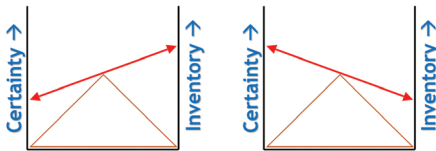
THE CERTAINTY PRINCIPLE

The Certainty Principle might sound a little like something from Werner Heisenberg, but it actually comes from Mark Watson, the Group Forecasting and Planning Manager at INENCO

It provides a simple way of thinking about the relationship between the certainty with which you know key variables such as demand projections and supplier lead times, and the level of inventory that must be in place given the desired service level.

At the extreme of course, if you have a perfect view of demand – ie. you are totally certain, and you know exactly when stock will be delivered if ordered today, even in one hundred days – then the amount of safety stock you need is ZERO.

Unfortunately we do not live in a perfect world. There is nearly always some degree of uncertainty, and therefore you need to increase your safety stock to compensate.



Importantly however, you can work on increasing the certainty with which you 'know' key variables and then you can reduce the level of inventory needed for the desired service level.

Certain benefits

At INENCO, rather than just accepting the 'inevitable', Mark Watson has pursued the benefits of greater certainty. We will explore these more in future articles, but some examples include:

- The lead times from one key supplier were long due to the amount of time it took to pick the orders. By understanding that the supplier's DC was arranged by product group and that one person would pick each order, INENCO changed its ordering to create one PO per product group. This resulted in faster and easier picking for the supplier and faster and easier receiving for INENCO. INENCO also reduced its stock holding by 14 days throughout the INENCO supply chain: less working capital, more cash – all through improving certainty. Now you might argue that the supplier should have had a Warehouse Management System which would split the picking appropriately anyway, but if not, then be pragmatic. Help them by separating products at the time of ordering. Importantly, the lead times per product group are both shorter and much more certain – a simple solution where both the supplier and customer win.
- In another case a supplier's portfolio was being planned as a single planning problem where in reality different products had lead times ranging from immediately available to a year for some make to order items. INENCO split the supplier's portfolio into lead time groups so that all items

that were immediately available were split out and given a short lead time and a narrow range of lead times, and then the remaining items were grouped into 30 day buckets. The supplier updates the lead time buckets into which its products will fall over time. Whilst there are more supplier codes and POs to manage, each item grouping has a much narrower band of uncertainty and with better certainty, product sub-groups can run very lean.

The trick here, and the lesson we see everywhere, is not to adopt a simple 'one size fits all' type of rule.

If you can meaningfully discriminate into different types of products, with different levels of popularity, availability and most importantly, certainty, this can translate into significant benefits.

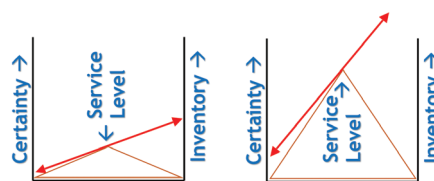
Increasing the certainty has translated into less double handling, less expediting and lower stock levels. You can also quote delivery times with much greater certainty.

You do need to have sound DIFOT reporting to continue to be certain about the level of certainty, but the right strategy with a small amount of admin, supported by your inventory management system, can save significant cash relative to an overly simplistic strategy.

Raising the service level

If your ambition in regard to your service level is low then you do not need to improve certainty very much at all to reduce safety stock requirements to almost nil.

If however you have a 95 percent service level objective and you wish to raise it to 98 percent or 99 percent, you will often find that the inventory levels will go off the scale. Doubling and tripling of inventory levels is not unusual when you really push the service level limits.



So, it begs some questions:

- Are you happy to just inject more stock into the system (a 'more parts for more cars' type response) or are you better off investing in improving the level of certainty in respect of demand and your supply lead times?
- How well can you improve certainty for the different variables and which ones give you the greatest leverage?
- Are there smarter ways of increasing the service levels that can you keep your inventory levels in check?



One initiative that INENCO is using to intelligently raise service levels is to implement support warehouses around the country for different groups of products.

Like many spare parts providers, INENCO simply cannot feasibly stock the full range of products that everyone wants in every branch, they have to have some emergency stock transfers.

Its challenge is to combine a normal replenishment supply chain that shifts product efficiently and in volume with a second supporting supply chain that utilises local hubs to rapidly supply emergencies one or two at a time.

Further, rather than having one simple supply chain that operates the same for all its products, it effectively has many different flavours of supply chain. So, they might have some products stocked all up the Queensland coast, some might be supported from Brisbane, some from Mackay and some just from Melbourne.

By setting different strategies that are right for different products, that consider the different expected service levels for them, they are able to get the right stock in the right place more often.

Pushing the envelope

The common thread here of course is not to adopt one overly simple strategy. By intelligently breaking up the product range, the suppliers and their product ranges, you can drill down and find approaches that work best for different types of products.

You can start by finding the easy wins, and benefit from them. Then look at the harder things and see if you can improve the certainty with which they are handled. And when that is done, look for more prizes.

To do this of course you need to track all the relevant variables, learn what can be learned and then put the lessons to use appropriately.

Even better, have your inventory management system learn what it can, help you learn the rest, and then help you model and implement different strategies that can significantly improve the certainty with which you run your business and the certainty with which you deliver benefits. Mark's more certain; can you be too?

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