LINKING TO THE CUSTOMER THROUGH DISTRIBUTION RESOURCE PLANNING

An integrated global market seems far away and the recent explosion of trade tariffs has thrown global trade into turmoil. However for many companies their Logistics strategies do not complement the idea of a single market. They are still dependent on factories working from forecasts of requirements from associated or subsidiary companies within geographical organisational structures. For some linking to their customers through digital data interchange is still a long way away. However long term success will dictate that this become reality for those who want to operate in a global market.

It is well known that forecasts are wrong from the moment they are made. If they happen to be right, it is a fluke. If they are wrong, then clearly the forecaster was at fault. However in industry we need to forecast to survive. We cannot develop a plan out into the future without some sort of forecast. If we do not plan in some way or other we are really dependent on luck to survive! We may well do other things to reduce the need to forecast- like reduce our lead times to the point where we can make to customer order. Even so we still need to look beyond the point of the next customer order to see what our capacity needs are and what form that capacity should take.

The need for forecast is a fact of life. The traditional direction for forecasting is to concentrate on how the requirements of our customers will change. To do this we have relied on various statistical techniques. These techniques are either based on time series analysis, regression analysis or some kind of simulation.

A time series analysis take the history of demand for our products and then predicts demand based on the average over some previous time period. We can use techniques that weight the most recent history, on the basis that what has happened most recently is likely to be the best indicator of what is going to happen in the future. Further analysis may show that our demand is “seasonal” which means that it varies up and down in a regular pattern over the year. It may also show a trend going up or down. We can, therefore, change our simple average to introduce a pattern over the future. Whatever we do we will only be going along as if we were driving on the motorway looking into the rear view mirror.

Simulation techniques use the power technology to try out a number of different formulae and then select one that will reduce the error in the forecasts. They have the advantage that they do not rely on a single formula all of the time to predict the future. Most of the strategies that this technique uses are common-sense forecasting “strategies”, rather than complex mathematical formulae. They go under the general name of “Focus Forecasting”. Again even this approach relies on our own past data to predict the future.

All of these forecasting techniques need good data. Regrettably it is our experience that few companies have good historical data on which to base their forecasts. Good data is that which accurately captures what customers wanted by date and quantity.

Most companies only maintain records of what they sent their customers, regardless of what those customers wanted and when they wanted it. They certainly do not know what they might have sold, if only they had the product there to sell. So even if any of these forecasting techniques could do all that they are supposed to do, the chances are that companies do not have the right base data to predict the future.

Clearly we need to override any forecasts with management judgement of what the future will be like. We have information about promotions, price changes, competitive threats and opportunities and so on. All of these are part of our plans for our companies' products. WE need to take account of our overall commercial strategies, in terms of getting additional market share, and growth. History may indicate some of our successes in this direction, but it will not reflect our current plans. So whatever history predicts, we will find there is a need to alter that view with our own judgement.

Despite the need to override, observation suggests that where people have tried to outwit the results from the computer, the computer tends to win 67% of the time. A Marketing Executive who said that "half of my advertising budget is wasted, the only problem is knowing which half" reflected the frustration of marketing executives. Forecasters have to live with the knowledge that two-thirds of their effort is wasted, without knowing which two-thirds.

Distribution Resource Planning as an alternative

One of the reasons why our forecasts are never accurate is that our Customers don't read them. Distribution Resource Planning (DRP) is a way of letting our company read our Customer's forecasts, which must be a better way of addressing the problems identified above.

DRP as a concept has been around for several years. It was first developed in the early 80s in the USA as a natural extension of the MRP logic in a Finished Goods inventory environment.

DRP develops a process for providing a forecast for each warehouse/depot for each Stock-Keeping-Unit (SKU) and then using standard MRP logic to calculate replenishment requirements from the supply depots. This demand is projected into the future, allowing a forward view of potential shortages. DRP also allows improved planning of transport and space requirements, since the planned shipments can be multiplied up by weight and cube factors to give an overall view of transport needs to each destination from the supply point(s).

Globally there has been a growing awareness of the potential of Distribution Resource Planning. As we develop a global view of Manufacturing and Distribution, DRP will become increasingly important. To date it has not assumed a high degree of importance as each operating unit within international companies has tended to develop its own individual Manufacturing and Distribution strategies.

One of the key issues, therefore, is to address how to integrate Logistics strategies, against the background where these have traditionally been managed on a territorial/country-by-country basis. Thus in many companies, France or Germany or Spain or USA have been seen as responsible for Manufacturing and/or distributing within their own country with ever increasingly complex inter-countrytrading rules.

In addition Distribution Resource Planning works best where inventories are planned and held centrally and pushed out to the individual locations as market demand dictates. This is the so called “Push” system. This goes against the grain when individual territories have felt responsible for having their own inventories, which are held “Just in Case”. Hence, there are clearly some organisational issues to confront as part of this move towards integration through DRP.

The benefits of DRP are substantial. Stocks reduce by as much as 50%, Customer Service rises to upwards of 95%. This is true if DRP is used within one company to manage the inventories in that companies own pipeline. The benefits can be significantly increased if a network of companies is involved.

Linking to Customers

In manufacturing we have seen the development in the Purchasing Function of Vendor Schedules to link manufacturers to their vendors. When this schedule is the output of a valid planning process, it is a powerful way to reduce lead times and inventories.

To date few companies have utilised the same concept to link forward to their customers, in order to encourage them to provide a schedule of demand. Looking ahead, the concept should be extended to the point of managing one’s customers demand, in the same way as “Pushing” stock out to Warehouses within one’s own Distribution chain. We know this reduces the need for piles of stock in each location. The idea is that we can push product out to Customers as demand dictates, rather then as they might dictate, therefore saving them significant inventory carrying costs.

Controlling ones customers’ demand may seem a radical departure from letting the Customer have what they want when they want it. But if both parties gain through reduced inventories, without any decrease in customer service, why not?

Our customers currently dictate their requirements to us because they:

1. Either prepare a forecast – or they use traditional order point methods.
2. Look at their stocks and desired safety stocks and on the basis of this re-order an appropriate supply.
3. Calculate what is needed to be ordered with reference to lead times and order quantities.

The DRP approach requires exactly the same of our customers. However in addition it requires that:

1. Our customer has a valid planning process, which means that they have a controlled way of bringing together their integrated business plans – IBP, focusing on agreed and feasible changes to plans.
2. Our customer has high levels of data accuracy – particularly with respect to stock records and Bills of Materials.
3. Our customer has a regular process for updating demand, in order to ensure that a valid statement of demand drive the planning process.

If our customer has these features in place, then we should obtain a statement of their forecasts, their stock projection, and their planned requirements from us. With this information we can place these demands alongside all our other customer requirements and decide how to optimise our shipments to our various customers.

Where we have difficulty if fulfilling plans to supply customers we can look at the potential stock situation of our customer and decide when we could supply without damaging their customer service level. In general, this means either shipping less than the standard order quantity or letting our customer go (temporarily) below safety stock levels. At worst we can communicate ahead of time that we will have difficulties in supplying at a particular point in time.

In this way, we no longer need to forecast our customers requirements. We receive a schedule going out into the future, which is date specific. It is driven by a valid planning process. They do the forecasting – unless, of course, they do the same with their customers….

Clearly there are difficulties in achieving this collaboration. The first may be that your customer may not want to share this information with you, wanting you to be kept in the dark about the real requirements. This requires you to persuade your customers that a partnership is more profitable than any other form of relationship. A unique customer/supplier relationship allows the customer to develop assured supplies, rather than maintain a situation where competitive vendor rivalry apparently benefits profitability while possibly sacrificing reliability.

With a large customer base you need to carry out a Pareto Analysis, which will identify the 20% of your customers who account for 80% of your demand. Armed with this information you can concentrate on the significant few, rather than the trivial many. You still need to continue forecasting the trivial many, however that task should be a lot easier to handle.

You will need to come up with some rules to agree degrees of flexibility in the plan. As an example, your policy might say that anything that appears as a requirement from the customer in the next two weeks will get shipped. Beyond that the customer has the freedom to change the schedule. This may seem a great step backwards for some companies, who deliver ex-stock in 48 hours. However how long does the shipment sit on the shelf once on the customers premises. We are concerned that many companies strive to climb mountains to get product to their customers in a hurry, for the product just to sit in the customer's warehouse for up to 4 weeks. The problem is that existing planning systems work on the basis of our customers wanting to maintain some minimum stock level. Based on this they place an order. Based on this order we strive to get the product to our customer in 48 hours. Then it sits in stock. If we could determine when to ship based on need rather than the artificial parameters of a poor planning system, we would need to worry less about shipping within short timescales. Meeting the schedule is more important. Daily, 48 hourly, or weekly delivery is not incompatible with this approach.

These are some of the key requirements for making DRP work. There are many more. However, the idea of linking to customers is key to reducing the need to forecast. Reducing the need to forecast makes manufacturing's task easier. This in turn will improve customer service and reduce inventory levels for both parties.

We see companies striving hard to improve their manufacturing methods by using techniques such as Lean, ERP and Six Sigma. These are all designed to make our companies more responsive to their customers changing needs. If companies devoted an equal amount of time to tackling the issues associated with linking to their customers, and hence working to a customer schedule, they will make the task of improving their operations easier. After all it is merely applying the oft used Vendor Scheduling concept in reverse. Linkage from our customer base trough us to our vendor base will save each participating company a bundle of money.

DRP truly benefits the bottom line.

Dave Manning
DM Integration Ltd
LEADERSHIP t h r o u g h INTEGRATION

E: Dave.manning@dmintegration.co.uk
W: www.dmintegration.co.uk