Managing Modern Manufacturing Supply Chains

The ability to control physical stock is critical to success in this competitive sector.

Efficient manufacturing relies on managing the supply of components and raw materials to support production schedules. It could be argued that the best manufacturers are the ones that not only have innovative products to meet market demands but who manage their supply chains the most effectively.

Smaller and growing manufacturers and their suppliers have hitherto had relatively few options compared with their larger counterparts but the emergence of cloud-based stock control services presents new possibilities.

Many manufacturers now employ processes that allow them to offer products with a wider range of options to customer order. To offer this flexibility they need highly efficient supply chains to manage and track the flow of components, materials and finished products in, through and out of their business.

While some businesses will manage this process from end-to-end, many more will only integrate to a varying degree with their customers and suppliers' systems, and this will frequently involve very little automation of internal stock control processes.

Despite this, businesses at all stages of these supply chains increasingly understand that managing stock information can be as important at the stock itself. In the past, manufacturers and their suppliers tended to hold large amounts of stock to be sure of supplying items when needed. This is usually impractical in the modern environment because it adds cost, increases handling and storage effort, and runs the risk of unwanted supply when customer requirements change.

The emphasis is now on leaner supply chains and lower stock levels, but with increased flexibility to supply just-in-time (JIT) and in smaller quantities. But reducing stock levels too far can also cause problems if a business is unable to satisfy delivery commitments promptly and adequately, leading to loss of customer confidence and revenue.

A happy compromise exists somewhere in the middle and it will be different for each business. However, what is common to all is that an oversight of the supply chain with visibility and control of stock should be central to any business involved with the supply of goods.

In the modern manufacturing business, each partner in the supply chain will need to exchange information with its immediate downstream and upstream partners. In practice, this means employing stock control systems that are able to exchange information electronically in real-time with a variety of applications in a number of different formats.

Providing customers with accurate information on manufacture and delivery times is often critical to securing their order. There is much evidence that customers are increasingly fickle and will change suppliers if products they want are unavailable or subject to longer lead times, even if they have to pay more to get that.

Ensuring stock availability and visibility is therefore a mission-critical priority for manufacturers and their suppliers. Yet in contrast to the retail sector, few manufacturers appear to offer these facilities on their websites.

The process of ensuring customer satisfaction by delivering a quality product to meet customer timescales is clearly paramount. But there are good reasons for improving the physical control of stock which supports this. Primarily this is to ensure the business is working with a guaranteed 'true' stock position, but there are many other reasons related to cost.

Warehouse space costs money, whatever the size of the business. Optimising stock levels helps to ensure space is used efficiently. This could mean reducing warehouse space to control costs, but could equally mean using existing space better to support expansion or increase product lines without extra costs, particularly important if more product variations are offered.

Handling product costs money. With better physical stock control the number, frequency and distance travelled for stock movements can all be reduced. The right systems will support more efficient order picking and assembly using error-reducing processes for better accuracy and productivity. They will also ensure correct rotation, for example to manage expiry dates, which are critical to products with a limited shelf-life.

Similarly, by collating and tracking key product-specific information like batch or serial number they support key traceability. This is important for customer service and invaluable in the event of returns or recalls. Reporting and analytical tools will provide insights that enable better decision making and service innovations based on real evidence.

The challenge facing many manufacturers is how to implement a robust application that supports business requirements without adding complexity and cost. Many businesses might only require back-office functionality while others will want to support customer-facing and web-enabled processes. In practice, businesses have four broad options.

First, an enterprise warehouse management or ERP system with an extensive set of functions. These are widely used in traditional manufacturing businesses, warehouses and distribution centres. They can be large, feature-rich and complex and are typically implemented by configuring a core application with extra requirements specific to the customer's operation. This can be a lengthy and costly process which makes them beyond the means of all but the largest businesses.

Second, the stock control functions of e-commerce applications (where used) can provide some limited stock control, customer-facing and web-enabled capability. While these may offer interim solutions to get the business up and running, few of them include enough functionality to provide a long-term solution to the needs of a growing business. This is no surprise as physical stock control is not a speciality of such systems.

Third, many start-ups simply manage their stock using paper-based systems or spreadsheets. These can be effective and many warehouses will use them as an uncomplex short term solution. However, for businesses who need to share information or maintain an online presence they offer little potential for providing real-time information. There are also limitations in the back office, where such simple systems can easily lead to errors and inefficiencies that take time and money to put right.

Another option is to outsource by using a distributor to operate a warehouse function on the manufacturer's behalf. Such operations can with care be interfaced with the manufacturer's own systems to present a seamless customer experience. This may be better suited to larger scale manufacture which requires high frequency JIT deliveries. And while the approach generally has merit, it may not be good for manufacturers who want to retain ownership of their stock, supply chain and associated data.

A better option for smaller and growing manufacturers could be a specialist cloud-based application. One that potentially integrates with in-house systems and website front-ends to support a highly functional warehouse-centric stock control system. This could boost stock visibility and accuracy levels while representing a very low overhead to the business as a cloud-hosted solution supported by the application provider.

It would also allow the manufacturer full ownership and control of their own stock as well as the associated data. It would enable new levels of supply chain efficiency that, with the low implementation costs and monthly pricing associated with cloud services would simplify cost justification and shorten the return on investment.

About ProSKU

ProSKU is a unique cloud-based stock control application that enables manufacturers to manage and track inventory in warehouses and store rooms. It delivers genuine WMS functionality in a form that is simple to deploy and easy to afford for smaller organisations engaged in Internet trading and fulfilment, wholesale, 3PL, manufacturing and the public sector.

ProSKU was created by WMS provider Chess Logistics Technology as a distinct, independently branded product. Chess Logistics Technology has successfully delivered enterprise warehouse management systems for nearly 30 years.