

Good Warehouse Planning: the Stitch in Time That Saves Nine

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With the growth in technology, demand for improved performance plus demand for year-on-year cuts in operating costs that help drive competitiveness means that the right specification, sourcing and management of your warehouse and distribution operations has become a complex process that is mission-critical to manufacturing and distribution. Get the decisions and locations right and you can benefit from a smoothly efficient supply chain that minimises capital tied up in stock and delivers on the nail. Get them wrong and you can multiply your costs right the way from source to customer: and if you're sourcing in Korea for end-users in Europe, then that's going to hurt.



Large, multifunctional warehouses are the trend today

Eastern influence

The modern trend is for increasingly large, multi-functional warehouses. A decade ago, half a million square foot was the exception rather than the rule: today, it's vice versa. The increasing popularity of goods or components sourced in the Far East makes for longer initial lead times but also opens up opportunities for compressing the supply chain once they hit your plant or distribution centres. The likely long-term impact of this largely retailer-driven trend will be to push some warehousing back to the point of origin and reduce purchaser warehousing requirements. That having been said, easily-customisable and high-rise warehousing in our sphere remains a crucial success factor - but with the added opportunity to decrease fixed stock holdings and simultaneously expand throughput by keeping it constantly moving through the supply chain. In short, being able to benefit from lower costs.

From the ground up: retailer or manufacturer?

Whether just starting or simply expanding your warehousing operations, getting it right is not just about size or availability. You need to match the needs of your business to the right kind of warehouse with the right kind of design in the right kind of place. Do you need a storage and assembly operation or a 'stockless' cross-docking facility that ensures fast and high throughput for your finished goods? Do you run it in-house, work with a third party logistics (3PL) provider like TDG or outsource entirely through a fourth party provider (4PL) like Panalpina. Or should you consider a specialist lead logistics partner (LLP) to synchronise your

work with a third party logistics (3PL) provider like TDG or outsource entirely through a fourth party provider (4PL) like Panalpina. Or should you consider a specialist lead logistics partner (LLP) to synchronise your sourcing, manufacturing and transportation operations?

Let's have a look at the key considerations. There are two main types of warehouse that can clearly be separated by business need: storage/customer order assembly and a stockless 'cross-dock' centre. Storage/customer order assembly works well for manufacturers or retailers with slower moving goods, service organisations or supply distributors with a spare parts or manufacturing warehouse. The cross-dock centre is geared towards retailers handling fresh produce, chilled food or high demand goods where they are coming in from a variety of suppliers and need to be branch despatched quickly – for instance at a 3PL transport hub, receiving regional collections for regional sorting and delivery.

Cross-docking Vs Storage

Cross-docking not only gets the item to the branch or end-user faster, but also cuts inventory, handling and labour costs. With a simple storage approach, product is unloaded and then stored until branch orders for 'top-ups' come in. In cross-docking, if incoming product can match a pending order it bypasses storage and goes straight to shipping, bypassing all existing inventory. The pick sequence is changed, substituting the newly arrived product that just came in for the stored product. The key consideration for these two options is just *how fast* do you need to get the products on their way?

Controlling the flow of goods is critical to cross-docking: a software-based, networked warehouse management system (WMS) achieves this by processing inbound product information as it arrives then monitoring all subsequent movements. Working in real-time, the WMS receives order details direct from customers, executes the order, and then informs them of shipment, arrival date and time. Cross-docking shifts the traditional emphasis of JIT away from storage and order picking to the more light-footed one of receipt and shipment. Cross-docking is effective when deployed appropriately but it's also complex: it's best to establish a formal plan that includes a pilot that you can evaluate. Once the plan is set, it's important to involve other members of your supply chain as cross-docking affects everyone in the supply chain and co-operation – and adjustment - is critical to success, particularly when it comes to managing cost structures.

Managing the variables: the consultancy approach

Then there are the operational factors: how to balance your set requirements against the crucial variables. Think about the volumes flowing in and out: that will drive your choice of mechanical handling and storage equipment. How big are your products and how fast can they be moved through the warehouse?

Both have a direct impact on the way you rack, stack and pack them – does the pallet work as the most efficient unit load? Do your intended volumes, product type and unit load fit with local building height restrictions and might you need to revisit the choice of location or facility as a result? For instance, in a

warehouse holding 10,000 storage pallets, choosing the right storage racking can improve storage densities in the warehouse by up to 30 per cent. And a higher warehouse can reduce your storage footprint – and cost per square foot – by up to 65 per cent.

Can you easily tap into a local labour market with the right skills at the right price? Plus there's transportation to consider: are you conveniently located for 3PL support and/or access to road, rail and air cargo? Is the land or facility available to you at the right price? Insurance and property policy requirements - as well as grants and taxes - will also help drive the geography of your decision. Taking a brief step back, you also need to factor in your planned business growth in judging if a site or type of warehouse fits with your commercial ambitions. Plus what can you do to de-bottleneck your processes and improve workflow for improved bottom-line performance?

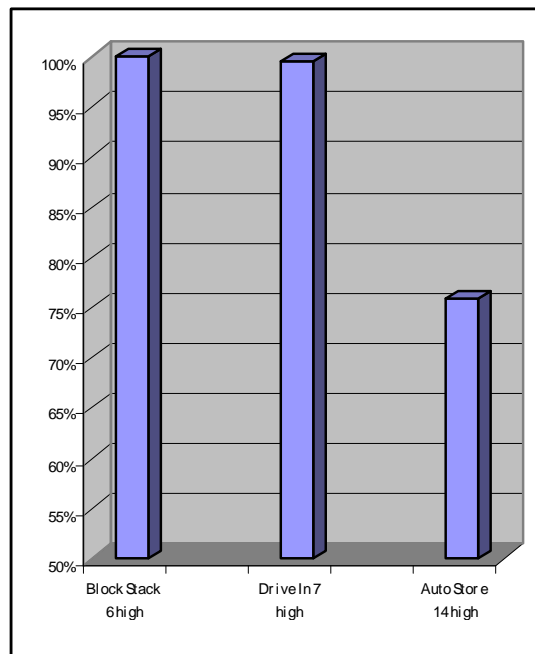


Illustration of relative storage costs for alternative technologies

In the few minutes or so it's taken you to get to this point, it's clear that the web of interconnected considerations that will drive your warehousing decisions is very complex. Combining computer modelling with consultancy support is one route that will help you best balance the evolving needs of your business against the physical and geographical practicalities of managing the components of your national supply chain.

Technology infrastructures

So we come to your warehouse management, control and enterprise management systems; the responsiveness of your supply chain will rely on how well you apply technology in the warehouse and in turn, how well you integrate that technology with your enterprise resource planning. It will directly affect your throughput volumes, your warehouse labour costs plus your ability to run successful cross-docking and/or storage techniques.

If the physical warehouse is the skeleton of your operation, then the WMS that directs your product movements, the warehouse control system (WCS) that co-ordinates the handling equipment and the enterprise resource planning (ERP) system that drives your business are the flesh, muscles and blood that give it life. There are many such solutions available on the market and the critical considerations with your big-ticket back-office solutions are that they can talk to each other and provide you with operational visibility

and management information that helps you make better business decisions – at all levels of the business - from warehouse to boardroom.

To wrap up, deciding how to manage your warehousing based on cost or short-term expedience is a false economy. You need to consider carefully how best to combine all these elements to future-proof your operation for growth so that you don't end up staring down the barrel of an expensive rip and replace refit – or even total relocation - in just a couple of years.