



WAREHOUSE DESIGN in an E-COMMERCE and E-RETAILING ENVIRONMENT: CHALLENGES and CONSEQUENCES

BACKGROUND

In contemporary society, on-line consumers are exposed to highly advanced technology when interacting with e-Commerce — the “WebStore”, the surf & search tools, price comparison tools, navigation tools, your on-line cart and payment options. However, what most e-shoppers don't realise is that the true magic and the more technically challenging process of e-Commerce is actually what happens after clicking “Buy” — the Order Fulfilment process, which often requires a highly sophisticated warehouse facility and innovative processes and systems.

In a conventional distribution network, products go through several stoppages before reaching the end user / customer. From production to warehouse to retailer.

The point where goods change status from being ship-to-stock to delivered-to-order is called the Customer Order Point (COP). In a conventional distribution network, the COP is the retailer. With e-Commerce and e-Retailing, the COP moves upstream in the distribution network, in some cases as far as the end of the production line, but usually back to the distribution centre.

*“Retailers are no longer viewing online simply as a sales and marketing channel but as a distribution and supply chain optimisation strategy. They are investing in a distribution model that sees their product being delivered to the customer when and where it suits them A growing number of Australian fashion retailers are adopting a multi-channel strategy by including online as an additional contact point with their customers. The data shows that multi-channel fashion retailers are generating **up to 30%** of their total monthly sales through their online stores...”(source - NAB Online Retail Sales Index).*

Market analysts estimate that online retail sales in Australia will grow by between 10% and 15% per annum over the next three years.

GETTING E-CHALLENGED

It is relatively straightforward to set up a WebStore and sell on-line. But picking, preparing, moving the product, and working with parcel carriers to ensure shipments are delivered on time to meet consumer expectation, is an entirely different challenge...

So, what new challenges and consequences might the traditional warehouse face as the new COP in a multichannel strategy?

Your Warehouse Physical Location:

Understand that your warehouse location performs one main function - getting your company's products closer to your customers. The key performance issue for the on-line channel is lead time because we are an impatient society.

Surge in Your Warehouse Activity:

Significant increase in inbound and outbound throughput activity especially in the despatch area – what once used to go on a pallet to one retailer is now shipped in many small parcels to numerous end-customers.

Your Warehouse Layout & Storage Solutions:

One of the greatest challenges is operating a multichannel facility that requires fulfilling traditional tasks and on-line activities simultaneously. Some on-line activities require Value-Added Services (VAS). Most VAS operations include special labelling, followed by the assembly of promotional packs or kitting of some sort. Pick faces and storage space will become more critical. Maximum flexibility in the storage fixtures is required to handle individual line items at their lowest structural level - e.g. in the fashion or footwear industries ie specific line item by size and colour. The new on-line activity will require better ergonomics in the despatch and returns workstations, now dealing with case packs that have to be broken out, checked and individually packaged / re-packaged. Another area affected is the reverse logistics - you can expect a tsunami of returns from the on-line marketplace. It is not unusual for e-Commerce companies to experience **return rates of up to 50%** or more.

Inventory Control & Management:

Accurate inventory by location data is essential and extra care is required to ensure customers receive the correct item; the buffer for error that exists with order fulfilment to the retailer network doesn't apply with the on-line customer. Product Profiling is vital, and capturing the cubic and sizing of an on-line product is a new challenge for the warehouse.

Warehouse Information & Management Systems:

Many warehouses don't have proper visibility tools and proper information systems support (WMS), thus making the handling of split-case order fulfilment more difficult than it really needs to be. When prioritising the on-line customers, expedited orders put a strain on the warehouse operation.

Typical areas of weaknesses in IS systems that can affect your e-fulfilment operation are:

- task management
- efficient replenishment to pick faces
- product slotting maintenance in real-time
- quality assurance – fulfilment verification
- stocktaking

Aftersales Customer Care Call Centre:

Once deals go live, consumers expect immediate delivery. Often on-line customers pay in advance, so customers' patience is very low and expectations from your customer service are high. Keeping your e-customer posted through every step of the supply process is crucial. With B2B transactions, account managers can maintain relationships. Whereas dealing with B2C, you have to handle thousands of customer inquiries regarding tracking and returns.

Transportation Management Tools:

Orders have to be transported in some way from the completion of the e-fulfilment process to consumption. Therefore the warehouse, as the new COP, has to manage a transport operation that may involve different forms of transport, varying sizes of containers and vehicles and the scheduling and availability of drivers and vehicles. In some cases you need to manage outsourced transport services and act as the interface point between your e-customer and your contractor for maximum visibility along the e-supply.

OVERCOMING E-CHALLENGES

Let's discuss what we believe are the key points that will assist an existing warehouse operation moving into a multichannel approach.

Assess:

Perform an assessment of your current operation to develop a short, medium and long term plan of action for your warehouse readiness to handle the on-line channel challenges. During the e-assessment you should consider the following:

- Segregate an area in the existing facility for e-fulfilment to distinguish e-activity from the mainstream operation (physical or/and administrative) or, another option is to amalgamate the multichannel activities in the same storage fixtures and operational areas
- Combine existing operational processes with e-fulfilment, or re-engineer and re-design processes for the e-fulfilment channel
- Revisit your product slotting and relocate stock according to sales forecasting to reduce handling time and improve picking activity
- Reconsider your inventory policy of which products should be stored and which products should be distributed using either cross-docking or direct deliveries from your suppliers
- What is the fulfilment policy to handle single item orders and several item orders? Should orders be picked according to product group, packaging or transport type, and how do you ensure that multiple item orders are picked, packed and dispatched in the most efficient way
- What are the paperwork procedures for e-Commerce deliveries? e.g. - picking list/invoice/labels etc.
- Has the business provided sufficient training, change guidance and support for the warehouse staff
- And many more...

Redesign / Retrofit Your Storage Solution:

The on-line channel in a warehouse is manifested by a broad range of products, low inventory levels and many small orders. As the throughput volume increases, you reach a point that justifies embracing Material Handling Equipment (MHE) technology, such as:

- High density storage fixtures & narrow aisle MHE technologies
- Workstations technology for better ergonomics
- Goods to Person systems
- Automated sorting systems – for both Inbound & Outbound activities
- Automated packaging systems
- Automated Guided Vehicle (AGV) or robotics system (e.g. Amazon's warehouses use a robotics system that brings the storage fixtures to a work station for the operators to either pick or put-away inventory)

Improve Your Information System to Support the New COP Processes:

Fulfilment of B2C orders requires additional functionality in regards to new interfaces and new operating functions and these are over and above a standard WMS. New e-Commerce IS requirements can include customer delivery address, special customer requests e.g. gift wrapping, engraving and paperwork that must accompany the product. The IS must generate consignment

orders that can be integrated with the transport contractor's system and give correct information while supporting traceability. e-Fulfilment activities can also place specific requirements on WMS support of e-processes on the warehouse floor. This involves the definition of rules for new inventory and picking strategies. Your marketing people may instruct the warehouse to include a brochure, product sample, etc. with the delivery.

E-SUMMARY

e-Retailing is clearly a growing and important way of doing business. In order for companies to be successful in the new marketplace, they **must** adopt a new approach to warehousing design and warehousing operations to cost-effectively satisfy the more demanding requirements of the e-Order Fulfilment process.

