OPERATIONS BEST PRACTICES: WHOLESALE DISTRUBTORS

The wholesale distribution industry is worth £93 billion to the UK economy[1] and 1 in 12 people is employed in the logistics industry. And it's a growing and evolving industry too, thanks to rise of ecommerce and the shift towards omnichannel fulfilment.

A changing environment sees distributors working to meet customers' ever-more demanding expectations of rapid delivery and low prices, while also investing in sophisticated software and technology to help run their operations with minimal costs.

Balancing all this to run a profitable business needs careful management and a broad understanding of the available strategies, processes and technology that can help.

This paper aims to cover the many operational aspects of the wholesale distribution industry and offer advice on best practice that will help distributors towards greater business success.

Warehouse and Depot Locations.

One of the most important factors in any wholesale or distribution setup is where to locate warehouses, depots and other distribution facilities.

Once sited, it's never the case that a warehouse cannot be relocated. In fact, moving the location can sometimes make better financial sense.

Factors to consider when either choosing a site, or assessing a current site, include how close it is to supply chain partners, the availability of labour, the access to transport links and general costs to buy or rent.

01

Proximity to supply chain partners

Typically, warehouses are initially placed where the business starts up. So, if a company is based in Leeds, then the warehouse will probably be sited there too. But that may not be the optimum location. It could be that the company mainly serves customers in Scotland, or in the South West of England – in which case, Leeds wouldn't ever be the natural choice.

How far a warehouse is from suppliers and customers dictates how easy it is to receive and distribute goods. Warehouse facilities should be sited in the most logical place for all your next-step partners in the supply chain – so usually that's somewhere within easy access of your suppliers and customers.

In the Midlands, it's estimated that 90% of the population in England and Wales can be reached within four hours. So traditionally, it's been a big distribution centre for nationally-based operations. And as distribution costs can often account for as much as 20% of an operation's expenses, it makes sense to locate as conveniently to customers as possible.

Being close to customers allows distributors to better meet their expectations. Deliveries get to wholesale customers or shops more quickly, which not only reduces delivery costs, but also contributes to a better overall customer experience. Happy customers are loyal, so if customer retention is a vital part of the business strategy, then it pays to site warehouses as close to the customer base as possible.

02

Traffic access

Proximity to motorways or railways, or perhaps ports and airports for international distributors, can often be key. It depends on what freight distribution methods a company wants to predominantly use, of course.

Also of concern is how easy it is to access these and the general traffic conditions. If it takes an hour to drive out of London to get onto a motorway, then this is time that is constantly being added onto a logistics journey. It may not be right for some companies. For a detailed analysis, distributors should look at average traffic speeds and volumes, as these will increase fuel consumption.

03

Availability and costs of storage

A company needs to carefully consider whether it will rent, lease or purchase a facility – or to outsource operations entirely.

Costs for each type will vary and will differ according to the region or area of the country being considered. It costs an average of £1,076 per square metre to build a large warehouse in London. But in the centre of the UK - a location that may be more convenient for national distribution operations - it's more than 23% less, at £825 per square metre[2]. Wherever the preferred location, availability of the right kind of warehouse, at the right size and in the right location may be limited.

Some distribution businesses need the flexibility to temporarily rent additional space. They may require additional pallet or bulk storage, or even specialist distribution services.

The amount of available warehouse space in the UK fluctuates. It's often limited in peak seasons, like at Christmas. And during the uncertainty ahead of a potential no-deal Brexit, the UK was "running at almost full capacity"[3], severely limiting the available space as food and drink, medicines and other distributors began to stockpile goods. These sorts of political events cannot be predicted, and for many, it drove up the costs of their short-term warehouse space.

04

Workforce demographics

The availability, cost and skills of staff can depend on the demographics of an area. Siting a warehouse in leafy Surrey, for example, may mean insufficient access to cheaper labour, especially in comparison with a less affluent, and more populated urban or suburban area.

Supply and demand of labour are key considerations too. A low supply drives wages up. And conversely, a high availability can mean reduced salaries. All this has an impact on the distributor's bottom line. Most logistics employees live within 15 miles of their work[4], so siting a warehouse in a location with a good supply of potential workers is key. The skill levels of the typical employees may also have a bearing on their general abilities. In areas with a typically lower level of average educational attainment, customer service, productivity and efficiency may all suffer. Equally, there may be lower motivation, which will in turn make it harder to retain staff.

For distribution businesses with seasonal or unpredictable staff requirements, locating a warehouse in an area with plenty of labour will be the obvious choice.

05

Future growth

To meet future growth plans, a distribution operation needs to be sited where there is potential for expansion. Whether that's by extending an existing building, or having sufficient land to build more facilities, it would be foolhardy for a growing distributor not to consider this.

For larger operations, having one central warehouse may not be the best approach. It may make most sense to add a number of depots or hubs, creating a network of facilities. In this way, regional or local depots can be replenished in bulk, which would cost less than many single journeys to fulfil customer orders.

06

Assessing warehouse locations

When it comes to assessing a current location, how does a distributor check what's right?

All the considerations need to be balanced and there are experts in warehouse location that can help with this. For example, network design systems, such as COST2SERV from Cirrus Logisitics, analyse complex distribution operations to determine the best place to locate warehouses and depots. They can calculate the optimum number of locations within the network, the best places to locate them, and what sort of capacity each should have. These systems scope an ideal network based on location of suppliers and customers, links to transport, and operating costs to serve those customers.

Without risk, a distributor can plot various scenarios, and capture costs and test ideas. The outcome is an action plan based on an assessment of the impact of customer demand and product availability, as well as the location, capacity and number of warehouses.

Warehouse layout and design.

The goal with warehouse layout is to maximise the use of the space available and thereby achieve optimal efficiency. In this way, the warehouse will function effectively and productively. With a poorly designed layout, orders may go out slowly and could have a detrimental effect on the profitability of the operation.

01

Operational throughput

The warehouse needs to be designed according to operational principles. Not all warehouses will need all aspects that go into a warehouse, but typically, these include:

- Delivery and vehicle unloading
- Quality assurance and assessment
- Cross-docking
- Storage
- Picking
- Packing
- Sorting
- Vehicle loading and despatch
- Admin/offices

The amount of time to be spent on each aspect needs to be considered, as well as how much space is required for each activity.

Also important is what time of day or in what order the tasks are likely to be performed. For example, sales volume and the type of goods being sold might dictate that receiving, putaway and replenishment be carried out in the morning, with picking, packing and despatch done in the afternoon and evening.

02

Which racking or storage

How staff move around, and how efficient they are in the picking process, is determined by the arrangement of the storage and what combinations of racking, palleting or bins are used. The best practice choices are storage that maximises productivity and throughput, yet minimises congestion and does not interrupt traffic flow.

Of course, the main factor in choice of storage comes down to the products being sold. But it's often possible to make space savings. Where products of differing heights are stored, for example, just reworking their locations and storing products in different combinations can avoid wasted space.

03

Order characteristics

The general location of goods should be made according to order characteristics. To do this, orders can be analysed to spot patterns that may shape how a warehouse is best laid out. Fast-moving or frequently ordered items are best placed near to the packing stations or despatch areas, with slower-moving goods further away, or higher up.

Equally, if items are often ordered together, then they should be placed near or next to each other, to reduce travelling time for the pickers.

Where seasonality is a factor, then temporary warehouse space might be best, as otherwise the goods will occupy space in the warehouse even when they're not being ordered.

04

Slotting

Slotting is the method of identifying what product lines are ideally placed where within the warehouse. It's essentially about ensuring that the fast-moving products are located in the most accessible areas, and that slow-moving ones are placed more out of the way. Having the highly accessed items in the best locations speeds up picking, putaway and replenishment.

The strategy for identifying the best locations is often based on the 80/20 rule. In a warehouse situation, this would mean that 80% of sales volume comes from 20% of SKUs, and therefore that those 20% of SKUs should be optimally placed for picking.

Other, more complicated calculations can be used too. For example, the value of a pick face run can be calculated and then compared with others. Then, adjustments can be made until the optimal placing is determined.

Slotting balances both picking and replenishment – rather than favouring picking alone – and this makes a difference to longer term productivity and efficiency.

05

How to assess and determine the warehouse layout

Distribution business have to carefully weigh up often conflicting requirements when it comes to warehouse layout. A careful analysis of previous sales and inventory data is always the starting point, along with consideration of the requirements for receipt, storage, packing and despatch.

Off the shelf software and tools such as CIRRUS Class can identify performance efficiencies and test simulations of designs and layouts. Complex warehouse layouts are computer-generated and tested, to measure the impact of different permutations with the aim of identifying the optimum layout.

Storage and handling systems.

When determining the most appropriate storage and handling systems, distributors need to consider and balance a number of factors and objectives:

- Utilising the warehouse space efficiently – full height or mezzanine flooring; warehouse overall footprint.
- What sort of access to the products is required, and with what equipment.
- Whether palletised or non-palletised storage is needed.
- Accuracy requirements.
- Length of time that picking, replenishment and stock taking will take.
- How product integrity will be maintained.
- Guaranteeing the safety of employees.
- Costs.

There are generally two types of storage and handling, one being the goods are moved and stored on pallets, and the other without pallets.

01

Palletised storage and handling

The majority of goods in warehouses – around half - are stored in pallets, with the remaining half being split between cases, tote bins and other types of storage[5].

It's no surprise that pallets are popular. They are convenient, easy to move and of a universal size. Many goods are delivered on pallets, so it makes sense to continue to use them within the warehouse and utilise palletised racking storage rather than transferring goods onto other types of storage.

With palletised storage, the pallets are shelved directly within the racking without being broken down. There are many palletised racking methods that can be employed according to the processes within the warehouse and the throughput of the business. The most some commonly used palletised racking methods include:

- Adjustable Pallet Racking (APR) - pallets are placed one deep onto horizontal beams that run parallel to the aisle and which are fixed to vertical frames.
- Block Stacking - pallets are placed on the floor and then one on top of the other, without the need for any racking equipment.
- Drive-in Racking – like with block stacking, pallets are placed on top of each other, but on racks, so they rest on metal "flanges" rather than on each other.
- Shuttle Racking – this uses the same principle as drive-in racking, but is automated, with battery powered "shuttle" platforms that move stock down the racking.
- Double-deep Racking - a variation of APR, this gives twice the depth of storage, with pallets stacked two deep, back to back.
- Narrow-aisle Racking - another APR variant, this uses the same layout but has narrower aisles, and is generally found in warehouses with limited floor space.
- Powered Mobile Racking – the racking moves perpendicularly to its length, to dynamically create aisles for access to the pallets only when they are needed.

02

Non-palletised storage and handling

Some products are just not appropriate for palletisation due to their size or how they need to be handled. So non-palletised storage systems are needed. Here are some examples:

Small Item Storage Shelving

Shelving is popular for storing cases and individual
items. The shelves are typically arranged in long rows, accessible by aisles. Sub-dividers can be used to separate different SKUs on one shelf. Shelving is usually free-standing and accessible by pickers from ground level. However, they can also be constructed up to higher levels, depending on the goods that will be stored.

Carton Live Storage

Carton live storage uses inclined rollers, so it's best used where the products have flat, smooth bases. It is space-saving as it eliminates the need for walkways, guarantees FIFO stock rotation and improves picking speed. It is mostly used in order picking areas, where a large number of different SKUs can be positioned in a small run of aisle and reducing the picking time, so improving operational efficiency.

Carousels

Carousels can be either vertical or horizontal in style. They are usually controlled by a computer and make good use of the available floor space. Vertical carousels have shelves suspended between two chains that are raised and lowered by electric motors. This always puts the product at the ideal height for picking. Horizontal carousels have shelves that move left or right, rather than up and down and tend to be used for slightly larger products than vertical carousels.

Miniload

A miniload is a storage and retrieval system that uses a crane to access cartons or tote bins from shelving or racking on either side of it. Miniloads are best suited for smaller, slow-moving goods with wide product ranges, but the system can be adapted for higher throughput situations.

Long Loads

Lengthy items can often be difficult to store as most racking systems can't hold them, especially where the racking system uprights are narrower than the product being stored. So long products like carpets, steel rods and wooden boards need alternative storage methods. Vertical storage can be used, where items are stored in a "toast-rack" fashion, upright between storage modules. Or pigeon hole racking is another method, where the pigeon holes extend away from the aisle far enough for the length of the product. Finally, block storage can be used for items such as wooden boards, which can be strapped together and then stored in blocks with wooden separators that allow them to be lifted from underneath.

Conveyors

Conveyor systems maintain a continuous level of movement within the warehouse, moving products from one point to another. Gravity conveyors tend to move goods short distances, using a chute. And powered conveyors – such as belt conveyors, like those you find at supermarket tills – are more appropriate for transferring products over longer distances.

Picking.

When it comes to best practice, picking is another aspect of warehousing that deserves some close attention.

01

Picking strategies

For very small operations, picking on a per-order basis may be the best strategy. But there are numerous possibilities that should be considered that can bring greater efficiency for a distribution business. The three main picking strategies to consider are:

Pick to Order

This is where one order is picked, one SKU at a time. Whether for large or small orders, this method has a great deal of consistency to it and means one picker is responsible for one order. Ordered items are accumulated on pallets, in roll cages or on trolleys as the picker moves through the warehouse.

Batch Picking

Batch picking is where groups – or batches – of orders are picked at the same time. The picking is done one SKU at a time, but because a number of the orders require the same SKUs, the picker is only travelling to one location to pick one SKU, yet fulfilling multiple orders. This minimises repeat visits to the same bin location, reduces travel time and increases efficiency.

Pick by Line

Pick-by-line is similar to cross-docking. Pallets or roll cages for each recipient are laid out, then the required number of items are added to each. One product line is picked at a time, with each order fulfilled completely for that line. Then, the next line is picked. It is sometimes called pick to zero because each line is picked until it is completed, or "at zero".

02

Improving picking efficiency

Aside from the basic types of picking, there are other, more sophisticated strategies that can enhance operations even further.

Zone Picking

With zone picking, the warehouse is split into a number of zones and pickers are allocated to specific zones. Sometimes known as the "pick and pass" method, items are picked in one zone and then passed on to another for more items to be picked and added to the order. Once all the items for the entire order have been picked, they are amalgamated into their separate orders and packed. Zone picking can either be achieved using a simultaneous picking method, or it can be done sequentially. With sequential zone picking, a conveyor system will often be used to pass each part of the picked order onto the next area and the net picker.

Wave Picking

With wave picking, one order is picked, one SKU at a time. But it is done within a scheduling window, so certain orders are scheduled for picking at particular times of the day. The order wave can be determined by criteria such as grouping together orders according to the type of carrier that will ship them, or by the customer or type of customer they are going to, or by the type of packaging that they require. All orders need to be assessed first in order to determine the best picking and shipping for the outstanding orders. Waves of orders can be compiled during the day, perhaps prioritised by importance or even the time of day.

Waveless Picking and Task Interleaving

In opposition to wave picking, there's waveless picking. It can be combined with other types of picking – like pick to order, or zone picking – but essentially, the warehouse doesn't wait to receive a certain number of orders before waving them. Instead, tasks are dynamically assigned, with orders going straight to the warehouse as they are received.

Task interleaving is primarily beneficial for warehouse operations that use pallet storage, but it can also be employed in warehouses where pickers move about on foot. By combining two tasks in one trip, operational efficiency can be vastly improved. Task interleaving can be used to combine putaway, picking, include cycle counting, replenishment and stock transfer. It is an advanced warehouse strategy and because of its complexity and the input parameters needed, it requires a warehouse management system (WMS) to automatically calculate and assign the tasks.

Person to Goods or Goods to Person?

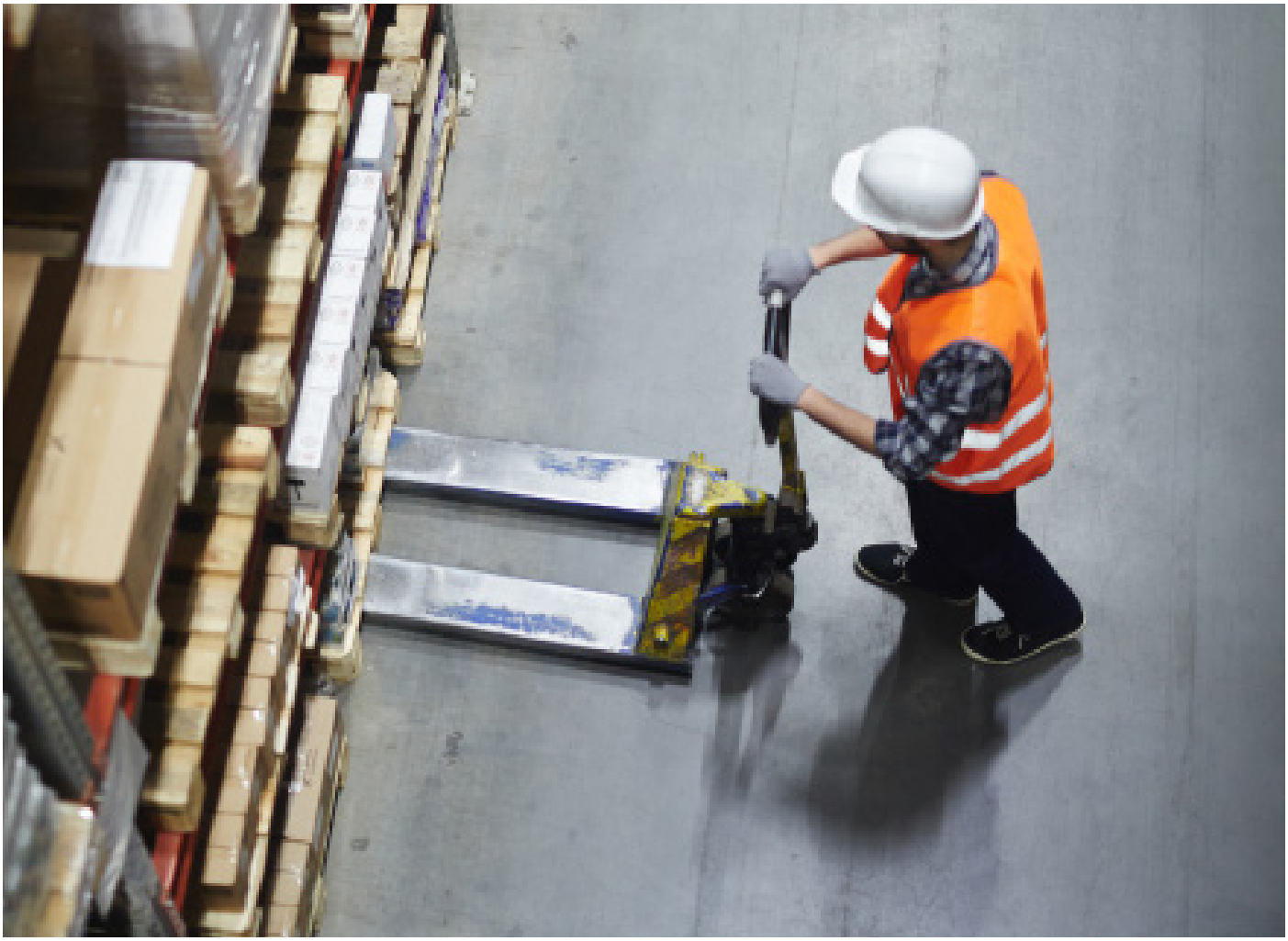
Rather than the traditional method of the picker needing to travel to each SKU one by one, with robotics and other picking equipment, goods instead can be brought to the picker.

With a goods to person operation, workers typically spend as much as 60% of their time walking or driving around the warehouse. This suits many operations, but others can achieve large efficiency gains by employing robots, carousels and conveyors to bring the goods to their pickers.

A distributor will always need to select the best order fulfilment strategy for their own operation, basing the choice on the goods stored, the frequency of sales and the costs of running the operation. And to underpin that, a rigorous ROI analysis should be undertaken too.

With person to goods, there's no investment needed in expensive equipment, robotics or the technology to drive them. But equally, there's no reliance on a technology-driven solution that may suffer from a single point of failure.

Certainly, with a large warehouse, an abundance of SKUs and tight order fulfilment windows, person to goods is less efficient as it means more time spent travelling the warehouse, a greater likelihood of mispicks and a need for more staff. In this scenario, goods to person gives scope to increase productivity. Some sources quote that double the number of lines can be picked with this method as there is a huge reduction – and often complete elimination of – transit times.



Warehouse hardware.

Choosing the right warehouse hardware is paramount. Again, the individual choice of hardware will depend on the type of operation involved, but best practice would be to invest in hardware such as label printers, barcode scanners and wireless networking systems.

In conjunction, this hardware can be used to instantaneously update a computer system. For example, if an item is picked or moved or replenished, the real-time information is logged. The label gets scanned by a handheld computer and the info is fed back to the computer system. Having real-time stock location information is vital for ecommerce ordering in particular, where there may be many customers ordering or browsing at the same time. It can keep the ecommerce website up to date with accurate stock levels, so that customer orders can accurately be fulfilled.

01

Label printing

Having cost effective warehouse label printers can really streamline customers operations across the warehousing function.

The warehouse applications for label printers include those for receiving and shipping goods. Product and case labels can be printed on receipt, and shipping labels for outbound cartons and packages can be printed before or during the packing stage.

Label printers help improves efficiency and accuracy and assist with putaway and picking – especially if barcodes are added as this functionality speeds up product or location identification.

02

Barcode scanning handheld computers

With mobile, handheld computers a warehouse becomes so much more efficient. Receipt, putaway, picking and despatch are all achieved so much more quickly than with manual methods.

Mobile computers can have either touch keys and a screen, or there are touch computers too, which resemble rugged smartphones and have a touch-screen interface only.

Richard Gilliard, Managing Director at Renovotec, a leading UK provider of rugged hardware has this advice for distributors, "Rugged hardware both inside the warehouse and within the wider logistics operation is key to streamlining processes, reducing downtime and augmenting labour investment. Operations vary hugely based on many factors and it is key to identify the right technology for your business. For instance, with customers dealing with bulky products requiring two handed picking, the move to wearable terminals with ring scanners can boost productivity by up to 15%."

03

Wireless networking

For mobile computers, barcode scanners and label printers to work effectively, distributors need a reliable and effective warehouse WiFi infrastructure.

Many providers will offer a full service that encompasses a comprehensive site surveys, followed by design of the system and implementation. An engineer needs to map the areas where coverage is required. Then, they will carry out physical wireless propagation tests to determine the optimum configuration of a system. It will identify the number of access points needed and where they would be best located to ensure one hundred per cent connectivity.

CASE STUDY: CARRIER INTEGRATION FOR FAST-MOVING DISTRIBUTION OPERATIONS

Global soft toy brand, Jellycat, uses carrier integration to speed up its operations. Comments Danny Olive, Director, "Carrier integration is a basic and essential part of any fast-moving distribution operation. It saves time and money - and ensures accuracy. Nobody wants to waste time typing names and addresses by hand and integration is even more important for international shipments, where carriers need granular level detail, such as commodity codes, or where names and addresses are in a foreign language.

"We are set up to send data automatically to our delivery partners, as soon as an order has been picked. The data is validated and a tracking number is passed back to our system. Tracking links are then instantly accessible throughout our sales and customer service operations at the touch of a button. This is just one example of how automation and integration optimise efficiency, and ultimately help us to drive sales growth and provide better customer service. The benefits are obvious, I never hesitate in making the investment to integrate a new carrier."

Warehouse software and systems.

01

Enterprise Resource Management (ERP)

ERP software is often the backbone of a warehouse's systems. It is the main software that runs a business's finance and accounting, streamlining processes and managing information. Some systems come with basic warehouse or business software, but good systems will also integrate with more sophisticated warehouse software, or business applications like CRM, ecommerce handling and inventory planning.

With ERP software, critical business information is updated in real time and gives an in-depth insight into all areas of the company. Most software these days is cloud-based, enabling software updates to take place in the background, without any interruption to the business.

02

Warehouse Management Systems (WMS)

Managing the supply chain and the operation within the warehouse so it is as effective as possible is critical to every distributor. Levels of complexity and functionality with WMS software ranges. There are systems suitable for warehousing operations with up to ten warehouse staff, ranging though configurable systems for 10-50 operatives, and right up to solutions for ecommerce business that have very complex, bespoke requirements, a 24-hour a day operation and a workforce of thousands.

At the most basic, a WMS will run the order processing, integrating with an ERP to run purchase order receipt of stock, putaway logic, stock allocation and order management, picking, packing and shipping. They also deliver reporting and analytics and can integrate with hardware like voice picking equipment or handheld devices and scanners and software for shipping.

More advanced solutions will offer the above, plus additional capabilities for inventory management, cycle counting, task interleaving, wave planning, replenishment, staff management and automation of materials handling equipment (MHE) interfaces. Some have extended functionality such as slotting, yard management, parcel manifesting, and 3PL billing.

From past experience, we estimate that a minimum benchmark saving of 20% can be achieved with the implementation of a WMS. Savings come across receiving, putaway, picking, admin and labour, as well as from a reduction in stock holding and fewer errors. A further 50% cost saving can be made thanks to a reduction in packing and shipping labour and administration.

03

Inventory planning and demand forecasting

Inventory management pose challenges for many. It is difficult to recognise demand variability, and if a warehouse has long lead times, then that makes the demand harder to meet. Then, planning for the demand for seasonal items on top of this is trickier still.

Inventory management gets more complex where there's a continual growth in the number of new SKUs being added. And the possibility of excess or obsolete inventory has to be factored in too. Out of stock situations need to be dealt with quickly. And conversely, there may even be a low turnover of stock, which has to be managed. With all these factors and variables to consider, it's not easy to accurately forecast stock requirements and to get the right mix of products in stock at the right times.

But it's a manual and labour-intensive job. Inventory planning and forecasting software can help by automating the inventory planning process, including for forecasting and planning, replenishment and optimisation of stock.

Depending on the size of the operation and the number of items stocked, automated planning functionality can:

- Bring a reduction in planning time of between 40% and 85%.
- Improve item availability, with a 15-30% reduction in out of stock situations.
- Lead to better customer satisfaction levels and an increase in sales due to fewer out of stock situations.
- Reduce inventory holding by 20% to 40%, helping to keep costs and overheads down.
- Increases sales by 5-10%.

All of these savings and improvements help generate a positive cash flow and boost profits.

04

Ecommerce

Integrating the ecommerce solution in with an ERP platform and WMS software is absolutely best practice for any distributor that sells online.

Ecommerce solutions abound for business-to-consumer applications. And for business-to-business operations, it's best to use specialist ecommerce solutions. These integrate with backend systems and data as would be expected, but also provide the best environment for trade and business customers to purchase via. When customers are logged in, they can be presented with pricing applicable to them, have full visibility of their account, see quantity discounts and order status. Plus, there are applications that promote cross-selling and upselling, with suggested and related products functionality.

Integrating ecommerce with other systems allows distributors to process and ship orders more quickly, reduces the cost of order processing and limits the amount of manual data entry time needed.

As businesses look to introduce automation equipment into their operations, the introduction of a Warehouse Control System (WCS) should be considered to manage complex, repetitive.

05

Warehouse Control Systems (WCS)

To balance the needs of omnichannel fulfilment and ecommerce with traditional retail operations will often require warehouse automation and control systems.

The typical increase in order volumes with these operations results in the introduction of more and more automation – to speed up order processing and meet customer expectations. But at the same time, distributors need to maintain efficiency in warehouse operations. So To best run and manage the automation, a Warehouse Control System (WCS) is required.

Automation brings challenges. It can mean a change in business processes within the warehouse. And there are many different types of automation: pick to light, conveyors, carousels, robotics, automated storage and retrieval system (ASRS), voice picking. Each of these brings new and diverse business processes to the warehouse. Controlling all these is where a WCS comes in. It manages the equipment systems, figuring out the most efficient product flows and directing equipment controllers.

The best systems will integrate with WMS software, so that the WMS is in control of the WCS, orchestrating the warehouse's entire automation stack. Nishit Nisudan, Director at BoxLogic, a leading UK logistics and supply chain consultancy agrees, "Traditionally, WMS solutions have been developed to manage manual warehouses. As businesses look to introduce automation equipment into their operations, the introduction of a Warehouse Control System (WCS) should be considered to manage complex, repetitive, equipment-based tasks. The appropriate allocation of tasks to each system and integration between the WMS and WCS within an automated warehouse is a crucial consideration."

06

Transport management systems for route planning and route optimisation

Transport Management Systems – or TMS – vary widely in their sophistication. But at their core, their basic functionality allows distributors to manage the admin and operational aspects of the logistics part of the business - or how orders are shipped to customers and the supply network.

A TMS automates processes to help increase efficiency, improve visibility of the fleet and reduce delivery costs. It does this with various functions, including route mapping and optimisation and vehicle tracking.

Says Agata Twardoska, TMS Implementation Consultant, "One of the most interesting aspects of in-house transportation is the proportion of fleets by size. More than three quarters of fleets have fewer than five vehicles - and only 2% of fleets have more than 50 vehicles, so logistics and transport managers are almost exclusively looking for affordable, turnkey solutions to replace paper methods.

"Thankfully, due to industry-wide investment in cloud computing, out-of-the-box implementations of TMS and Vehicle Routing Systems (VRS) with SaaS models have made transport solutions both affordable and quick to implement."
Route planning software helps reduce costs by optimising delivery routes and ensuring the visibility of fleets. More recent technological advancements have seen transport management software (TMS) suppliers bringing artificial intelligence and machine learning capabilities, allowing for ever more intelligent forecasting.

Vehicle routing software can be used by warehouses that operate their own fleets to develop route plans that minimise mileage – and therefore costs – but which also get deliveries to customers as quickly as possible.

TMS can not only optimise routes, but also determine which vehicles should be chosen, which order to undertake deliveries and which orders should be loaded into which vehicles.

Even small and medium sized operations can take advantage of route planning software, with low cost software such as Springboard Delivery, which includes route optimisation as well as proof of delivery and driver tracking.

07

Carrier integration and 3PL

For many distributors – especially those involved with ecommerce – the past few years have seen a rise in the number of small parcel consignments being sent. This, together with customer expectations of ever quicker delivery, has necessitated a change in delivery strategy, with these distributors needing to increasingly rely on multiple carriers. In turn, transport costs have rocketed.

For these sorts of warehouse operation, it can help to integrate multi-carrier management into the warehouse systems, optimising transportation and cutting costs. In this way, distributors can be proactive with their parcel shipping, optimising and consolidating delivery options and seeing more productive operations.

Multi-carrier management systems help businesses to choose the right carrier for their consignments. The selection of carrier can be based on various criteria, which should be set up in advance. The initial choice of carrier will perhaps come down to the size or weight of parcels, or maybe the delivery destination. But after that, deciding factors will likely include cost and speed of delivery.

Carrier management systems can not only choose the best carrier, but they can also help with other delivery aspects. Some third-party logistics (3PL) carriers require that labelling and packaging need to be tailored to their requirements, for example. These systems can also create shipping documents and delivery updates for customers.

Multi-carrier management can be a standalone system or can be integrated with other warehouse systems. It's nearly always best to integrate carrier management with other systems such as Warehouse Management Systems (WMS) and Transport Management Systems (TMS).

Measurement and benchmarking.

Finally, best practice in a warehouse hinges on checking that the operation is performing satisfactorily. This comes down to using the right key performance indicators (KPIs) to benchmark the operation and measure that it is doing well.

KPIs allow distributors to monitor the day-to-day performance of the operation, providing insight into the overall profitability of the business and – just as importantly – identifying areas for improvement.

Companies that fail to monitor the correct indicators may find their profit margin reducing, because they are unable to identify poor performing areas of the business, or inefficient activities. However, the correct use of KPIs makes it easier to identify opportunities for improvement and to set and monitor targets.

At Balloon One, we recommend using a set of specific KPIs that allow distributors to monitor their performance across the warehouse and to target areas for improvement. Where there are issues, in most instances a distributor can further drill down into influencing factors, and so create some additional complimentary KPIs. The seven main KPIs we recommended are spread across the warehouse - inbound, outbound and inventory – and are a great start though for targeting improvements:

Receipt Accuracy (Inbound)

Receipt accuracy measures the percentage of supplier purchase orders that are received in full. It's an area that impacts forecasting, planning and shorted customer orders and helps to identify performance in a variety of areas, such as supplier, receipt, and putaway.

Receipt Performance (Inbound)

Receipt performance quantifies the number of lines or the quantities received per person, per hour. This identifies individual performance issues, as well as where process improvements might be possible. It also helps with assigning labour most productively.

Shipped On Time In Full (Outbound)

The shipped on time in full (OTIF) KPI assesses the percentage of sales orders that are shipped on time in full. It identifies where there are stock issues and where process improvements are needed. Plus, it's a great indicator of customer satisfaction.

Pick Performance (Outbound)

The pick performance metric determines the number of lines or quantities picked per person per hour. As with receipt performance, it identifies performance issues and process improvements, but in this case, to do with outbound aspects of distribution.

Cycle Count Accuracy (Inventory)

Cycle count accuracy evaluates the number of cycle counts that are completed with zero adjustments. It demonstrates how closely official records match the actual stock and also identifies issues with supplier accuracy.

Space Utilisation (Inventory)

Space utilisation shows the percentage of bins containing stock. Some empty space in a warehouse is good as it allows for optimisation, that is for moving products around more easily. But it is important not to waste space and too many empty bins take up much-needed space and cause a certain product to be out of stock, meaning no revenue from that SKU. Utilisation improvements can be identified so that optimal stock is held across the warehouse.

Stock Turn (Inventory)

Stock turn - or stock turnover - measures the average number of days that stock is turning over. It identifies excess inventory in comparison to sales levels, showing where utilisation improvements can be made and evaluating sales performance.

Concluding thoughts.

From the decision on where best to site a warehouse right through to measuring how well the operation is running, there is much that the wholesale distributor needs to consider.

Making the right decisions can be critical to the successful running of an operation. While each distributor will have slightly different needs, or may need to place greater importance on some aspects than others, these are the areas where adherence to best practice can make the difference. Choosing the optimum picking strategy, the right software system or the best delivery routes can really shape the performance of a business.

All these aspects of best practice need to be studied, and the best routes chosen, so that a wholesale distribution operation can grow and thrive.

[1] UK Warehousing Association (UKWA): https://www.ukwa.org.uk/wp-content/uploads/2017/06/20161125_-_UKWA_Position_Paper_for_HMRC_on_BREXIT.pdf
[2] Figures from: https://www.statista.com/statistics/601846/industrial-building-cost-uk-2016/
[3] Statement from the UK Warehousing Association (UKWA), July 2019: https://www.ukwa.org.uk/wp-content/uploads/2019/07/Statement-on-warehousing-shortage-from-UKWA.pdf
[4] What Warehousing Where?, a report by Turley for the British Property Federation
[5] Baker P., Perotti, S., 2008. UK Warehouse Benchmarking Report, Cranfield School of Management, Cranfield University, Cranfield, UK.

ABOUT THE AUTHORS

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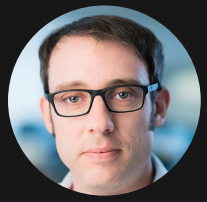

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Craig Powell is the Managing Director of Balloon One. With 31 years' experience in the IT industry, leading Hewlett Packard's ERP Services division before starting Balloon One in 2003. Craig is motivated by delivering IT growth platforms that allow MSEs to scale their business and reach their potential.

John Burgess is the Project Delivery Director at Balloon One. With a PhD in Supply Chain Strategy and a career spanning varying consultancy roles, John takes a strategic perspective to deliver tangible across customers' businesses. A strong believer in continuous improvement through the aggregation of marginal gains, John has been working in Supply Chain IT for over 10 years.

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Founded in 2003 and based in West London, Balloon One is an End-to-End Supply Chain Systems provider with a focus to deliver agile solutions through a pragmatic approach to their customer's distribution operation, large or small, every time. Balloon One provides WMS, ERP, TMS & Automation, to enable greater interoperability between processes throughout the supply chain. With a value driven and fact-based strategy, Balloon works with clients to not only identify and resolve their pain points but to facilitate the growth of their businesses.