

NEW Strategy Insight

THE PATH TO AUTOMATION OF eFULFILMENT

The path to automation of eFulfilment

Speaking at the recent Supply Chain Conference in London, Neil Adcock, Consulting Partner at [Bis Henderson Consulting](#), sets out the critical steps to assessing the potential use of automation in eFulfilment.

The eCommerce sector is facing a changing landscape. Cost pressures and service demands are increasing, whilst labour availability is falling away.

According to the UK Commission for Employment and Skills: “The logistics sector, which contributes over £90bn annually to the UK economy, faces skills shortfalls and recruitment difficulties, with over 1.2m extra jobs required by 2022.”

The Guardian says: “Net migration to the UK has dropped by 84,000 since the Brexit vote.” While PwC finds that: “Workers from the European Economic Area accounted for 17 percent of the UK’s warehousing workforce in 2016.”

In addition, Markit, for the Recruitment and Employment Confederation reports: “Companies are finding it harder to recruit staff and as a result, pay rates for permanent and temporary staff are escalating.”

These issues are particularly important to pure play eCommerce businesses and omni-channel retail chains, as their fulfilment operations are highly dependent on a readily available pool of labour.

The new reality

So what is the new reality for omni-channel retailers?

We are all consumers, whether buying in a shop or online, and we are becoming more and more demanding. Going back a few years a 3-5 days service level was acceptable, but now we really expect our purchases the next day, and we want to place that order later and later in the day. We have also become accustomed to more options in terms of how things are delivered – click and collect, collect in the store or brought to our home. In all, we want a much higher level of service.

However, because of the way the market is, we are now less willing to pay for premium delivery – we expect it as standard. What’s more, there is less loyalty, as there are more sources out there that can supply. Increasingly, there are competitive pressures pushing the boundaries on service.

All of this comes at a cost, in terms of logistics and the supporting operations. So, how can fulfilment operations cope with these growing constraints and challenges?

Demands on labour

In the past our way of coping with extra demand or peak was simply to bring in more labour, because we could and labour was in plentiful supply. We could split someone’s shift, and ask that person to come

back tomorrow, because that was the way the market was. But things have moved on. Now due to reduced labour availability, finding labour is a real problem and will continue to be so.

As a consequence, we are seeing a lot more time spent on planning, and this is taking place earlier and earlier in the year, well in advance of peak, and that means having to commit to labour and a cost base far earlier. Finding people and retaining them is difficult, so looking after them, not only in terms of pay, but also in terms of the working environment, is becoming increasingly important – because people move for very little now.

Also, how do you manage the ‘order well’ – how can you get the maximum efficiency from people? These are some of the internal pressures businesses are facing.

More thought is now going into how to manage peaks. The Black Friday event of four or five years ago, where huge spikes caused a real problem in terms of labour resources, has caused many businesses to rethink how they control demand during promotional events – perhaps by, reducing service expectations or extending the promotion over a number of days.

Then there are some short-term initiatives you see, such as an email offer: ‘if you place an order in the next two hours you will get next-day delivery for free’. That is because there is latent capacity on site. It’s a way of using the available labour resource without sending people home or having excess staff and costs.

The top business requirements

Whilst every business will have different needs going forward, we see the following as common requirements:

- Mechanisation over people – reducing reliance on increasingly costly, less available and less flexible labour resources. Removing people from repetitive tasks.
- Improved efficiency – and therefore reduced costs, and off-setting customer demand.
- Reduced order time to despatch – supporting better customer service.
- Improved warehouse flows – recognising changing stock, cross-dock, returns strategies.
- Supporting further order changes – move to next-day, same-day from longer lead times.
- Order balancing – ability to systematically manage the order well.
- Future flexibility – allowing growth to be accommodated within the operation.
- System integration – ensuring future business change can be supported.

Alternatives to manual operations – where to begin?

More businesses are now asking us about mechanisation and automation, the common objective being to reduce reliance on people and to reduce costs. By being cleverer in how you process orders, and through introducing certain levels of automation, you can delay your cut-off times and yet still get orders out of the door in time for the carriers.

Other businesses are looking at automation or mechanisation to improve flows around the warehouse, and this can be achieved through goods-to-person systems. But it's important too to think about ensuring flexibility into the future – the applied automation has to be future-proof.

There is an awful lot of technology out there, for example: Fully automated systems, pouch sorters, OSRs, goods-to-person systems, auto bagging, carton erection etc. How do you find your way through all of that? How do you make the right decisions?

Embarking on change – the big questions

Our approach is to strip everything back and ask, what are the big questions that we are trying to answer?

- *Capital* – How much capital does the business wish to deploy? If capital is at a premium then you may need to look at some smaller changes in the operation rather than a larger scoped project.
- *The Facility* – is there a short-term or long-term commitment? If you can move to a new building then you are not constrained by existing processes and layouts, and you may be able look at some higher levels of automation.
- *Growth* – through fully understanding your business objectives look at how you can grow. If you are growing 20-30% year-on-year you may want a short-term solution, but have in mind a much bigger step change in the future. Then, the types of customers, types of products and the future order profiles, all need to be thought through.
- *Throughput* – focusing on where the operation is today, in terms of its performance. How efficient is it, how much does it cost, how much labour content is there, and what can be taken out?
- *Business strategy* – then thinking about the wider business strategy too, relating to future customers, service and product offerings – which is important when potentially making significant changes to the supply chain and asking for significant capital outlay.

Designing a solution – identifying options

How do we then take this forward to a solution?

Firstly, it's imperative to understand the detail behind the operation as it is today: What are the processes? What is the performance of each one of those processes and can they be improved or not? If they are manual, what are the associated costs? What is the labour content? What does peak look like? The list of questions goes on.

Then we can start to think about whether we can automate some or all of those processes.

But what is the future like in terms of volume? If it is going to grow, where is it going to come from – more SKUs, different types of products, more customers? Then, physical aspects of each product need to be considered – is it a large product that might not fit over a sorter? All of these challenges need to be thought through.

In a similar way, what might peak trade look like – is that going to change? Is it going to be more of a promotion led business? Once we have an idea of what the future looks like, and what the costs are, we can then start on an outline of the solution.

Along with some of these big questions, if capital is limited and the business is going to stay in the same building – and throughput isn't going to grow much and isn't that much at the moment – then we can dismiss the idea of a fully automated site. However, the answer may be to automate or mechanise some areas of the warehouse, whether that be introducing conveyors or perhaps a goods-to-person system or an auto-boxing or auto-bagging machine.

If you are not considering a fully automated warehouse, there are going to be a number of manual operations to maintain and therefore, how do they fit in to an overall warehouse solution. And if we are going to focus on these three or four areas of change, what capital costs and what operating cost improvements do we drive out of the operation, both in year one and into the future?

A case study example:

A high street retailer with a growing online business wanted to reduce unit costs and labour availability was becoming a problem. They were planning much earlier for peak and having to commit to resources they may not use. How did they get over that?

They considered going to a full tote storage system and having a goods-to-person system installed. But what we found was, although this was appealing, the payback wasn't there because there wasn't sufficient throughput.

However, we found that a number of key elements gave them real benefits – auto boxing, auto bagging, and put-walls – and that allowed the retailer to substantially reduce its overall requirement for labour. And importantly, offered a good payback.

It's all in the detail

There is always a danger of stopping there. But is critical to go into the detail with your supplier and really make sure they understand what your requirements are and get those mapped out in a really detailed way. It's vital too, to ensure both parties are clear on the data they are modelling against – these are my service levels, this is my cut-off, these are my business needs going forward. Moving to a more automated solution requires a different mind-set.

The next question is, how is this solution to be integrated into my overall business? How does it fit into the warehouse and other operations, systemically, from a process flow perspective? Planning the

implementation and integration can take some time and should focus on cutover, migration, and extensive testing.

Think flexibility

We spend a lot of time thinking about flexibility, but it is absolutely key. It's a matter of identifying the 'what ifs' going forward, such as rate of growth, product range, service offering, SKU profile. This involves challenging the business to ask important questions about its future positioning and then making sure the solution is stress tested for that.

When considering the relationship between throughput and unit cost, quite often we find that in the early years the unit cost comparison between today vs the future is very tight, but actually as throughput increases and the fixed costs of mechanisation stay constant, then that gap begins to widen. It's also important to look at the 'do nothing' cost scenario too.

What if it doesn't go to plan?

But what happens if it doesn't go to plan, what do you do? It may be because some of the 'what ifs' weren't explored fully enough and therefore the solution was not performing as expected for the business.

Case study example:

This was a highly automated warehouse where we were brought in post-event. The company had a huge OSR tote system that had run out of capacity, yet the overall throughput was down against budget, and their overall SKU stockholding was down against budget, but what they hadn't thought through was that their SKU growth was enormous. It was 35% above where they thought they were going to be. In addition, their returns rate was substantially higher. So with the lack of space they had to switch-off the inbound process.

Our recommendation was to get the operation back on track by applying some really simple, easy to implement changes that might not have been optimal, but at least got them through that difficult period. Then the next step was to calmly review the profile and examine where it should be in the future – and critically, create flexibility just in case things change again.

Critical points to retain

Finally, it's worth rounding up on why it is becoming increasingly important to focus on automation and mechanisation in the omnichannel warehouse.

Pressures on service offerings, coupled with an increasing focus on costs are placing a heavy onus on eFulfilment operations to perform. But the problem is, labour costs and availability issues are becoming considerable constraints on a company's ability to serve, and margins are being squeezed.

However, automation technology is now far more accessible and scalable, offering a reliable and flexible solution for many – driving down costs, upgrading performance and creating opportunities for improved customer service.

There are many considerations to take into account and many possible solutions, but taking a thoughtful approach can deliver significant results.

ENDS

Useful links:

Logistics Consulting: <https://www.bis-hendersonconsulting.com/logistics-consulting/>

Supply Chain Consulting: www.bis-hendersonconsulting.com/supply-chain-consulting/