

The modern way

Warehousing is about real-time operational flexibility and responsiveness. It can be about adding value to the customer experience, creating competitive advantage for the retailer, but only if the systems used to manage it are quick to react. Alison Campbell-Boreham investigates

Retailers are still struggling with the legacy of outmoded, bespoke, inflexible warehouse management systems (WMS) that were not designed for today's demand-driven businesses. Demand for performance improvement, and the seamless services that support it, are driving WMS providers to redevelop their software to support more open, universal architecture that enable communication with upstream and downstream processes and cut costs through reduced human intervention and greater automation.

Competitive edge

Differentiation is key to securing competitive edge. Productivity is crucial as is accuracy and efficiency. As new lines come and go the physical layout of the warehouse changes and this has a knock-on effect for WMS as pick walks have to be recalculated.

Bruce Putman, general manager at supply chain provider, AquiTec, believes 2007 is the year of the warehouse: "The ugly duckling of the supply chain can now be the crucial differentiator due to recent changes in technology."

He cites interoperability through service-orientated architecture (SOA), improved labour management systems, implementation of real-time information and voice as being the main technological innovators of the moment. Hugh Murphy, European business manager, 3M Supply Chain Solutions, agrees: "Retailers are beginning to show enlightenment. Historically, warehouse improvement was purely a cost reduction initiative but now they are seeing it as a real asset."

One area where technology is set to substantially improve

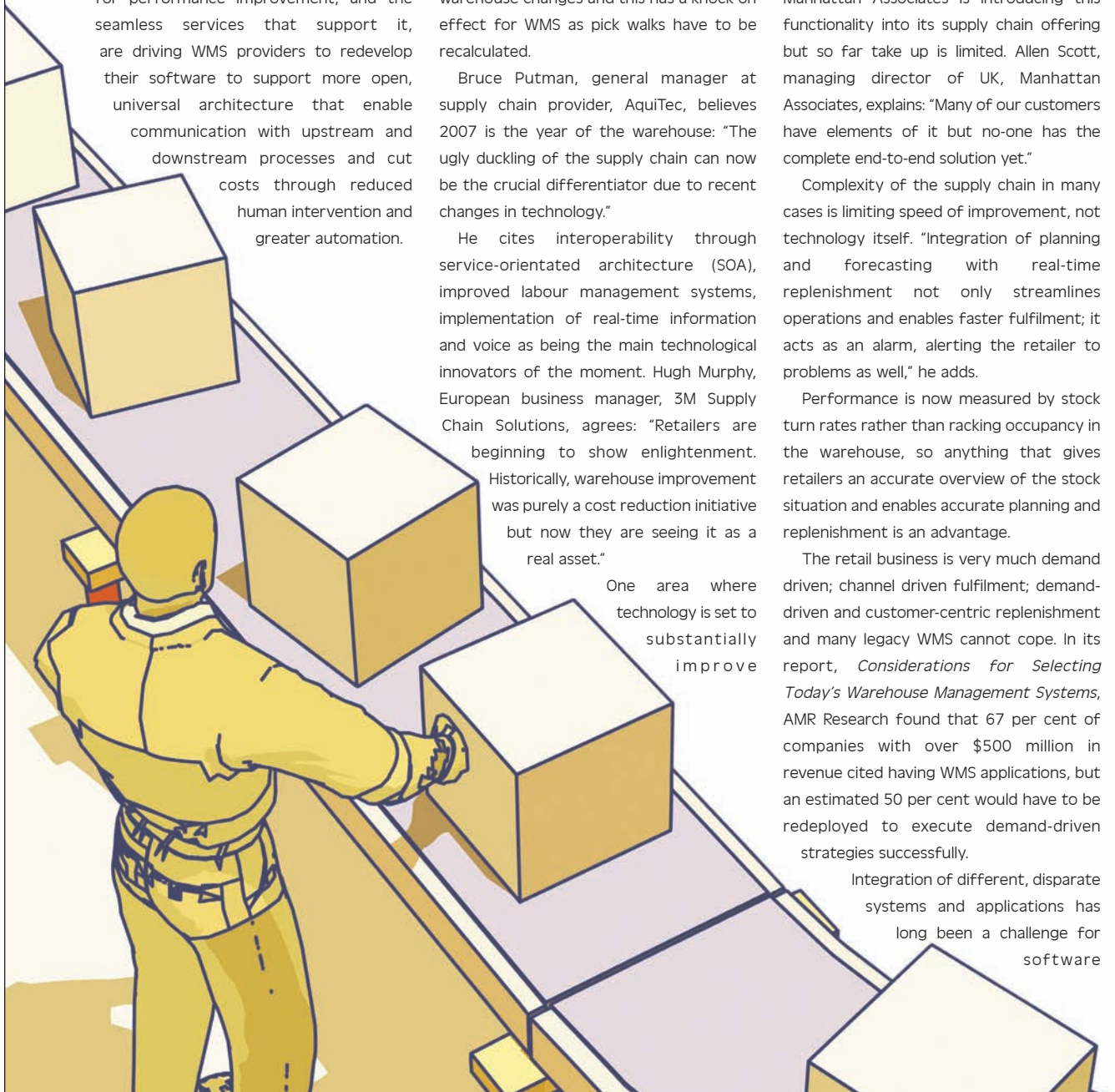
the supply chain is integrating planning and forecasting with real-time replenishment. Taking onboard similar principles to JIT (Just in Time) manufacturing, it demands an extremely responsive supply chain. Manhattan Associates is introducing this functionality into its supply chain offering but so far take up is limited. Allen Scott, managing director of UK, Manhattan Associates, explains: "Many of our customers have elements of it but no-one has the complete end-to-end solution yet."

Complexity of the supply chain in many cases is limiting speed of improvement, not technology itself. "Integration of planning and forecasting with real-time replenishment not only streamlines operations and enables faster fulfilment; it acts as an alarm, alerting the retailer to problems as well," he adds.

Performance is now measured by stock turn rates rather than racking occupancy in the warehouse, so anything that gives retailers an accurate overview of the stock situation and enables accurate planning and replenishment is an advantage.

The retail business is very much demand driven; channel driven fulfilment; demand-driven and customer-centric replenishment and many legacy WMS cannot cope. In its report, *Considerations for Selecting Today's Warehouse Management Systems*, AMR Research found that 67 per cent of companies with over \$500 million in revenue cited having WMS applications, but an estimated 50 per cent would have to be redeployed to execute demand-driven strategies successfully.

Integration of different, disparate systems and applications has long been a challenge for software



developers and retailers alike but none more so than in the area of the supply chain. A recent survey by Sterling Commerce found that only 30 per cent of UK IT managers feel their company has successfully integrated the IT processes of external partners. This could be because the complexity of supply chains is increasing through outsourcing, mergers and acquisitions, faster than integration can keep pace.

In answer to this, today's warehouse management and logistics solutions are based on SOA (service-orientated architecture). SOA in its crudest form is a collection of services that communicate with each other. This can involve simple data passing between them or two or more services coordinating some activity. The net result is that, rather than struggling to fully integrate different systems, SOA allows communication between only specified areas at any one time, thus minimising development time and allowing for fast redevelopment or reconfigurations at any point.

Manhattan's Scott comments: "Vendors have struggled to develop back-end production systems that can service every type of retailer. The best they have come up with historically is a nice front-end solution."

John Fontanella, vice president – research, AMR Research sees great value in SOA: "WMS touches on so many different systems so integration is vital. But with traditional WMS you need a lot of customisation. With SOA it alters from changing the logic to adjusting workflow and business processes."

This is particularly challenging for retailers that sell large volumes of non-standard products – even changing the business slightly to support a new line or new way of organising deliveries can require extensive software restructure. Retailers reliant on proprietary WMS, legacy systems or those developed in-house are finding it most difficult. Like trying to turn a large cargo ship, it can take some time and cause much disruption in the process. Too many modifications, over time, could compromise the stability of the WMS.

Today's WMS, based on SOA, are far quicker to implement and adapt as changes occur. Adjustments to data and reporting can be made without changing the whole application. Furniture and homewares retailer, Rosebys, recently replaced its WMS

with 3M's HighJump Warehouse Advantage and gained a number of operational benefits, not least of which was the ability to build an interface with its logistics provider, DHL, for parcel tracking in a couple of days rather than weeks.

Voice recognition

One area of technology in warehouse and logistics management that is showing a return on investment and significant productivity gains is voice recognition (VR). The price point for VR has dropped, allowing wider adoption. Improvements in design enable faster learning of the operator's voice so they can be up to speed and realising productivity gains far quicker. Most implementations of voice are reporting positive results.

Manhattan's Scott explains: "Retailers are seeing real improvements; particularly now that many warehouses are staffed by foreign-speaking nationals. Irrespective of their native language they can be up and running more quickly than with an RF gun."

Not all new technologies enjoy such effusiveness from the industry. Take RFID, for example. Scott thinks it's a technology looking for a problem: "I don't think it justifies the financial investment required. The readers are not 100 per cent accurate so it can't be relied upon."

Hugh Murphy, European business manager, 3M Supply Chain Solutions, disagrees. He sees great value in RFID for retailers in adding value for the customer and differentiating their business: "Highly automated tracking of assets as they move throughout supply chain processes has potentially more ROI opportunity today than ever."

The need for visibility in the supply chain and reliance on real-time information is increasing. It enables retailer at every stage of operations to assess the situation and react in real-time rather than being forced to rely on batch processing.

In terms of where retailers should be directing their attention, 3M's Murphy has a warning: "One of the mistakes of the past has been to over-engineer solutions. This is a big mistake. Retailers now should be planning for flexibility."

AMR's Fontanella has this advice: "Retailers need to be clear at the outset about the functionality they want from these systems. There is nothing worse than surprising the vendor halfway through an implementation."

He advises against fully automating the warehouse, for example: "Keep 40 per cent free for business processes that will change and need that flexibility. And don't expect WMS to cope with automation. There is no standard interface. The decision has to be: does automation drive warehouse management or vice versa?"

There are ways to get away from the clutches of an unresponsive warehouse and logistics management system, but it isn't pain free.

