



# IN THE SPOTLIGHT



**Kevin Tedford** is a seasoned industry veteran with over 30 years experience in distribution. His worldwide experience includes Red Prairie (formerly McHugh Software International) where he was one of the original partners, and Forte Industries where he served as Vice President of Technical Operations. In 2005, he founded KT Consulting, LLC. During his career, he has helped companies achieve distribution related operational efficiency and productivity goals through the appropriate use of material handling automation equipment, information systems and business process improvements.



In this issue of the QC Software newsletter, we talk with Kevin Tedford concerning some of the pressures warehouse managers are facing today as well as addressing some of the potential solutions.

## **What are some of the critical issues facing warehouse managers today?**

Warehouse managers are measured by their ability to get the right product to the right customer, at a service level that meets customers' requirements or their company's policy. This translates into having the right amount of inventory in stock, ensuring accurate picking and delivering these services within a certain cost/product ratio.

Problems occur when the business environment fluctuates. Your company may be growing or declining or the nature of your company's orders or products may be changing. It's not just the number of orders, but the number of lines per order and quantity per line that has an impact. Perhaps, marketing has decided to offer customized products, so now you have to add value-added services to the distribution center, such as gift wrapping, gift certificates, etc. Providing these additional services requires a whole new business process. There are many different factors that could affect a warehouse manager's performance.

## **Isn't the simple solution just to add more people?**

Warehouse managers are looking at the easiest way to solve a specific problem. If your business is growing and volume is increasing, you may think the obvious solution is to add more employees. Or it could be adding a whole new operation in the facility, such as value-added services. The way in which a warehouse manager reacts to the problems could be correct from a micro perspective, but there comes a time when you need to step back and reevaluate the whole business process in the warehouse to determine if there is a better way to meet your high level objectives at the lowest cost. After all, the goal of a warehouse is to be a low cost operation, while meeting or exceeding customer service targets.

## **What are some of the actions that warehouse management can take?**

If the cost of operations and the cost per unit are starting to increase, it's probably the result of the law of diminishing returns. If you double your business and double your

workforce, productivity may not double. The key thing is to recognize that there is a problem and address it before business suffers. First, you need to measure what you're doing today, so after your business changes you can determine if you're doing any better or any worse. Second, is to recognize that your metrics have changed. If they are increasing, you need to start looking at modifying your operational methods. This can be achieved in many different ways. Perhaps, there is a business process that needs to change, or introduce new or updated business software, or maybe material handling automation is the right approach. The key is to recognize that there is a problem, and take action to change the way you operate to reduce cost.

### **You mentioned software. What's the role of a Warehouse Management System (WMS) to address these issues?**

If you have a small warehouse, it's possible to keep manual records or a spreadsheet, one's own memory can usually suffice or you can ask a fellow employee where the product is stored. But as the size of your operation and facility expands, those methods are insufficient and fail miserably. WMS, in general, are deployed in facilities to address the inventory control problem when a facility grows. The primary purpose of warehouse management software is to control the movement and storage of materials and process the associated transactions, including shipping, receiving, putaway, picking, cycle counting, etc.

### **What's the difference between a Warehouse Control System (WCS) and Warehouse Management System (WMS), the acronyms sound the same?**

They may sound the same, but they perform very different functions in the warehouse. Think of the WCS as bridging the gap between corporate software applications such as ERP and WMS Host systems, and the Programmable Logic Controllers (PLC) and/or PC-based cell controllers that control the material handling equipment.

### **What are some of the limitations of a WMS?**

Many warehouse management systems communicate with material handling equipment such as Pick-to-Light (PTL), conveyors, A-Frame, Print and Apply, etc. In most cases, the WMS is interfaced directly to those pieces of equipment. The limitation of the WMS is that it doesn't link all of those areas of automation together. The WMS can download data to the PTL or A-Frames, telling them what picks are required from that area, but it lacks the ability to orchestrate the flow of material through the warehouse. It is safe to say that anyone that's been in a high volume facility understands that the ebb and flow of material doesn't go smoothly. Therefore, if you have one section of the warehouse controlled by a material handling subsystem running at a certain rate, and another area running at a different rate, you've created an imbalance.

### **How Can WCS help address the imbalance?**

Warehouse Control Systems were designed to control the warehouse floor and islands of automation. They provide the capability to route products, and regulate the workflow between areas of automation. They provide real-time information directly to management to enable them to take the necessary action in an environment that's never constant. The mix of orders in a warehouse on any given day can vary considerably. The warehouse manager needs to move people from one area to another to handle the 'hot spots'. The WCS provides management with the visibility and the tools to manage the systems and the people by deploying them in the most effective manner—to get the right product out the door, at the right time in an uninterrupted, steady flow.

**What are some of the tools provided by a WCS?**

A WCS typically has alarms, diagnostics, and metrics providing visibility to management of what's going on at each area of automation. It helps the maintenance staff identify and solve problems quicker, and get the equipment back on line faster. It provides supervisors or operations managers with the visibility of workloads so that they can quickly move people from one area to another to optimize the throughput throughout the system.

**Are these systems complementary? Are there areas of overlap?**

There are definitely areas of overlap, especially in the area of picking. Today, all of the Tier 1 warehouse control systems include a full complement of picking methods. But it's not an area of expense overlap, as in general, the WCS vendors license their products by module. Simply stated, you just use the WCS components you need to be complementary with your WMS. You would still do all of the planning in the WMS, but allow the WCS to handle more of the execution activities in the warehouse or distribution center.

**When should a company consider a WCS?**

If you're looking at making a major change or investment to your warehouse facility, you should consider a WCS. A WCS can help address productivity problems, such as not receiving the output you expected from your labor force. It can help in certain environments with accuracy and customer service issues regarding on-time delivery. A WCS can reduce the ebb and flow between the islands of automation by optimizing the throughput and providing operational efficiency. If you are not making your delivery cut off times or delivery windows, a WCS may be appropriate. Certainly, if you're looking to add areas of automation because your business is growing, and it appears you are going to outgrow your current capabilities, then a WCS should be seriously considered. If you have an ageing WMS, then adding a WCS may be a cost-effective way of extending the life of the WMS. If you are thinking of a WMS, consider a WCS to see if it can meet your requirements. In my experience, a WCS is much cheaper to implement. Depending on the scope, it's typically two to three times more expensive to implement a WMS than a WCS.

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