

Conquering costs and complexity through advanced warehouse management solutions



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Overview

Manufacturers and distributors are under severe pressure to increase the productivity and performance of their warehouse operations in the face of growing costs and complexity.

Some companies, however, are recognizing this warehouse management challenge as an opportunity to strengthen their competitive market positions. These best-in-class performers are meeting today's warehouse visibility, agility, and productivity challenges by investing in advanced warehouse management solutions.

The consequences of inaction are growing. As customers become increasingly demanding and supply chains increasingly global, the profitability of today's manufacturers and distributors is at risk.

The immediate problems that are undermining warehouse management performance are:

- Ineffective order management
- Excessive labor costs
- Inefficient asset use

While market laggards remain wedded to processes, practices, and systems that perpetuate these difficulties, market leaders are taking warehouse management to new levels. They are adopting advanced systems that help them deliver the perfect order, reduce labor costs, and maximize the use of space and equipment.

These systems enhance warehouse operations by leveraging such next-level capabilities as inventory management, work and task management, radio frequency and voice direction, labor management, slotting, and kitting and light assembly.

Moving beyond the limitations of existing enterprise resource planning (ERP) systems, advanced warehouse management solutions position firms to operationally excel and drive profitable growth in today's hypercompetitive markets.

The question that emerges now is: Which companies will perform as leaders and which ones will continue to act as laggards? Futures will turn on the paths that are taken.

Market drivers: Why manufacturers and distributors are rethinking warehouse management

Across the manufacturing and distribution sectors, organizations are forced to reconsider their warehouse management practices, processes, and systems as they confront an increasingly costly and complex array of factors. Trends such as increasing customer compliance demands and ever more global supply chains mean companies must enhance warehouse productivity and visibility if they are to remain competitive, protect their profitability, and position themselves for continuing growth.

Customers have grown increasingly powerful relative to manufacturers in recent years and are making more demands on them. Big box retailers such as Wal-Mart and Home Depot are pushing for the perfect order.¹ They want orders delivered more quickly, more accurately, and customized to their needs—all at lower cost.

Manufacturers and distributors are expected to turn around orders on shorter notice than in the past, delivering orders in 12- to 24-hour cycle times that once would have been expected within 36 to 48 hours. They are punished with fines and chargebacks if orders are improperly labeled, packaged, or delivered. And more elaborate packaging has become common as retailers demand more in terms of boxing and delivery formats. Unfortunately, heavy competition and big box retail power mean that suppliers are unable to pass on the added costs associated with these added demands.

Meanwhile, supply chain management has become increasingly difficult as companies source products, components, and materials on a global scale. Manufacturers that once sourced their materials regionally or nationally now turn to Asia, Latin America, Eastern Europe, or other overseas locations. Similarly, they are distributing their goods more globally as they seek to penetrate new and growing markets. That means products must travel far greater distances and be stored in more locations, exacerbating the challenges of visibility and threatening perfect order delivery.

Regulatory challenges also are looming. With high-profile recalls on everything from toys to dog food to peanut butter in the news, manufacturers are clearly under growing pressure to track their products with even greater precision.^{2,3} They must have immediate access to data on everything from lots to serial numbers to shipping locations if they are to avoid crushing costs—and legal penalties—in the case of a recall. Lengthening supply chains, which magnify public safety concerns, further contribute to the risk of expensive recalls.

Given these factors, suppliers are faced with escalating costs and complexity, driving demands for greater productivity in warehouse operations. With distribution seen as a cost center, companies have no choice but to find ways to drive warehouse performance to new levels if they want to remain competitive and profitable. However, their existing ERP systems often lack the automated capabilities necessary to increase visibility into operations, enhance market agility, and boost warehouse productivity.

¹ Industry Week, "The Perfect Order," January 1, 2007.

² Deloitte, Consumer Products Survey, "Product Recalls Sound Wake-up Call for Consumer Products Companies; Supply Chain Risks Can Compromise Your Brand," October 1, 2007.

³ Supply Chain Digest, "Global Supply Chain: Mattel Incident Shows Companies Can't Go On the Cheap When Sourcing from China, Must Take Proactive Control of Entire Supply Chain," August 8, 2007.

Business challenge: Inadequate order, labor, and asset management are undermining warehouse performance

The limitations of many companies' warehouse operations are manifested along three key dimensions: orders, labor, and the warehouse assets themselves. To drive performance and productivity gains in their warehouse operations that are in line with today's best-in-class performers, manufacturers and distributors will be forced to confront inadequacies in terms of how these issues are handled. Let's consider them one by one.

Ineffective order management. Today's customers are more demanding than ever. They increasingly expect the "perfect order." According to AMR Research, this is an order that's delivered complete, on time, accurate, and in perfect condition.⁴

Best-in-class companies achieve 98% first-time order completeness (reducing rework), 98% on-time rates (reducing delays), and 99.7% order accuracy (reducing errors and mis-picks), according to Aberdeen Group.⁵

Most companies, however, are falling short on these key performance indicators. They are not only allowing service levels to diminish, they are vulnerable to fines and chargebacks from powerful retail customers.

All research points to the strong link between perfect order performance and profitability—and for very good reason. More perfect orders mean fewer imperfect orders; and it's the costs of correcting those imperfect orders that eat into margins. Premium freight costs, excessive over time, and extended cash-to-cash cycle times all damage overall profitability.

Excessive labor costs. Given the increasing complexities associated with today's customer and supply chain relationships, companies are struggling to meet performance expectations without raising labor costs. Indeed, 51% of respondents in a recent Aberdeen Group survey said they were "feeling the pressure to manage change without increasing staff."⁶

Meanwhile, best-in-class companies are "managing the disruptions and uncertainty of supply and demand changes" with less than a 0.25% increases in labor costs over the past year, according to Aberdeen.⁷

⁴ AMR Research, "Forget the Perfect Order, It's the Imperfect Order You Need to Measure," December 2007

⁵ Aberdeen Research, "Five Key Steps to Optimizing Warehouse Management," February 2009.

⁶ Ibid.

⁷ Ibid.

Unfortunately, most companies are either seeing labor costs rise far beyond the levels of these best-in-class firms, or they are allowing performance levels to slip. Whatever the case, they are running the risk of being eclipsed by high-performing rivals.

Inefficient asset use. Yet another factor limiting the performance of today’s manufacturers and distributors is the tendency to underuse assets such as equipment and warehouse space. Considering the growing demands they face, the natural tendency is to spend more on warehouse equipment such as forklifts, pallet racks, and conveyors. They are also likely to contract for more warehouse space—often at premium rates.

Rather than better leveraging the assets they currently possess, they see costs rise as they acquire still more assets. Once again, they are likely to be outmaneuvered by high-performing competitors with the capabilities to generate more from less.

Definition of Maturity Class	Mean Class Performance
Best-in-Class: Top 20% of aggregate performance scorers	99.7% of orders picked accurately 98.6% of orders arrive at customer on time 98.5% of lines across all orders which can be filled complete -1.7% order turnaround time, trend +0.2% warehouse labor cost, trend
Industry Average: Middle 50% of aggregate performance scorers	96% of orders picked accurately 93.5% of orders arrive at customer on time 93.8% of lines across all orders which can be filled complete +0.5% order turnaround time, trend +1.3% warehouse labor cost, trend
Laggard: Bottom 30% of aggregate performance scorers	88.1% of orders picked accurately 88.5% of orders arrive at customer on time 86.2% of lines across all orders which can be filled complete +4.9% order turnaround time, trend +5.2% warehouse labor cost, trend

Source: Aberdeen Group, February 2009

One of the key factors undermining productivity and performance on all three of these dimensions—orders, labor, and assets—is an absence of clear visibility into operations.

Reliant on existing ERP systems, most of today’s manufacturers and distributors lack detailed inventory tracking capabilities. This results in difficulty to support the same product housed in different discrete locations within a warehouse. Different pallets become one bundle of inventory or lot in their systems. They are unable to track the lots and expiration dates of those pallets.

Space optimization becomes another problem as workers fail to put products in appropriate bins or support the proper rotation of products out to customers. Principles such as first in, first out (FIFO) and first expire, first out (FEFO) become difficult, if not impossible, to follow. When warehouse employees grab the first product available, products expire in the warehouse and become obsolete.

Finally, existing ERP systems lack the capabilities necessary to proactively manage and monitor labor productivity. There is no way to direct activities in the warehouse for maximum efficiency, ensuring workers are performing in the most productive fashion. One can’t monitor a shift that a person has performed in a given day, accounting for time and attendance.

By contrast, today’s best-in-class companies are turning warehouse management into a competitive advantage. These leaders are setting a new standard in warehouse management, threatening to leave laggards far behind. Manufacturers and distributors that intend to remain competitive—driving warehouse productivity to best-in-class levels—must move beyond their existing ERP systems and adopt advanced capabilities.

Business solution: Advanced warehouse management

To reach new levels of warehouse visibility, agility, and productivity, companies are now investing in advanced warehouse management solutions. These proven systems help manufacturers and distributors maximize product placement strategies, prioritize tasks, implement productivity standards, and increase logistics efficiency.

These systems use criteria such as item, location, quantity, and order information to manage stock. But while conventional warehouse management systems concentrate on merely locating inventory, advanced systems manage the whole process of material flow: receiving, put-away, cycle counting, picking, replacement, packing, and shipping.

Among the key capabilities of an advanced warehouse management solution are:

- **Inventory Management.** This allows identification and tracking of inventory with sufficient granularity to allocate, fill, and deliver orders as accurately as possible, as often as possible. You can view and monitor the location, condition, and amounts of all finished goods, components, and raw materials in your warehousing operation, as well as rotate your inventory according to FIFO/FEFO principles and other relevant factors. Lot control, serial number capture, date code tracking, catch weights, inventory aging, and expiration dates provide additional visibility and flexibility.
- **Work and Task Management.** This manages the ebb and flow of demand by balancing workloads and tasks with available resources. Multitasking enables increased productivity through the use of common workflows, customer requirements, and business processes. Task interleaving allows grouping of work orders and locations with similar or complementary attributes into batches and waves so that orders are received, picked, packed, kitted, and shipped in a timely fashion. Individual worker productivity improves by combining complementary tasks to increase output and limit travel time.
- **Radio frequency (RF) and Voice Direction.** These capabilities help you improve the productivity of distribution and fulfillment processes by using hands-free connections and advanced speech recognition technology to voice-enable order selection, replenishments, put-aways, transfers, and receiving. Your workers can operate hands-free without reliance on cumbersome lists, labels, and scanners, vastly improving their productivity and order accuracy.

- **Labor Management.** This enables you to maximize worker performance in the warehouse. You obtain workforce planning, staffing, and execution capabilities, along with the ability to monitor direct and indirect labor and provide feedback to workers and supervisors as picking, packing, and shipping activities are completed. Real-time performance measurement gives supervisors visibility into their operations so they can identify bottlenecks, labor performance problems, and other barriers to productivity and take corrective action.
- **Slotting.** This helps you maximize productivity and minimize travel time from location to location by determining the most advantageous arrangement of SKUs within a range of pick faces or slots. It minimizes disruptions that result from demand variability by enabling adjustment of product placement according to seasonality, special promotions, and changes in customer order patterns.
- **Kitting and Light Assembly.** This allows you to adopt postponement strategies and mass-customize products at the time of distribution and fulfillment to ensure customer requests are fulfilled correctly at the lowest total supply chain cost. You gain greater ability to accommodate changing customer tastes and product requirements. Kitting and light assembly facilitates personalization and other product enhancements, single and multi-station kitting and assembly, packaging and labeling operations for existing products, and complex final assembly operations for customer-specific products.

Benefits of advanced warehouse management systems

Companies can reduce costs, protect profitability, and enhance their overall market competitiveness by remaining focused on the key performance indicators now driving warehouse performance. Through the implementation of advanced warehouse management solution (WMS) systems, they can:

- **Strengthen order management.** With customers now demanding the “perfect order,” manufacturers and distributors can leverage advanced solutions to reach 98%+ order completeness, 98%+ order on-time rates, and 99.7%+ order accuracy, putting them in the best-in-class performance category.
- **Increase labor productivity.** With labor cost pressures rising in relation to new demand and supply changes, companies with advanced capabilities can enhance workforce performance and accomplish more with less. Labor cost increases, which otherwise would have risen heavily, will be minimal or nonexistent. Indeed, companies can increase labor productivity by 15% to 40%.
- **Maximize asset use.** Rather than investing more capital in equipment and warehouse space, companies will rely on their advanced systems to fully deploy their existing warehouse assets.
- **Reduce inventory costs.** With most ERP and legacy WMS systems, inventory identification is possible only by location, not holistically. However, advanced WMS enables one to make inventory buying decisions based on visibility into inventory throughout the entire network, and make intelligent decisions on intra-facility movement of that inventory relative to buying more. Since inventory is a tremendous cost burden, companies can drive clear and compelling return on investment by addressing this area.

Advanced warehouse management solutions promise to reduce direct operating costs and increase overall revenue. As the experiences of best practice firms suggest, these gains are clearly within reach.

Case in point: Blockbuster

Blockbuster Inc., a \$5.5 billion leader in providing in-home movie and game entertainment with approximately 8,000 stores worldwide, needed to ensure that it controlled costs in its complex, high-volume supply chain without undermining high-service levels.

Key Challenges. The Blockbuster 850,000-square-foot distribution center in McKinney, Texas, is responsible for serving all of Blockbuster's more than 4,000 company-owned stores and 3,000+ non-Blockbuster entities within the US. With tens of thousands of SKUs and an annual distribution volume in the millions, distribution and logistics represent a major factor for the company.

"Maintaining a constant focus on controlling distribution costs without sacrificing our high level of service is absolutely critical to our bottom line," says Bill Wissing, Blockbuster's senior vice president for distribution and logistics in the US. "It's not just the complexity of our supply chain that makes this a major challenge. We face a lot of pressure to lower prices at the retail level and must constantly adapt our product mix to keep pace with changes in the industry."

Blockbuster has responded to these challenges by implementing state-of-the-art warehousing and logistics processes, leveraging technologies that effectively meet today's business needs and have the capacity to adapt as the company's business changes. "We recognized early on that implementing an advanced warehouse management solution would be essential if we were to meet our objectives for low cost and high service levels," Wissing says. "Because our business model encompasses both broken case fulfillment and consumer packaged goods (CPG), we sought a warehouse management solution with a proven track record in both."

Taking Action. Having surveyed its options, Blockbuster chose the Infor SCM Warehouse Management solution. "The Warehouse Management solution combines strengths in CPG, broken case fulfillment, and third-party logistics (3PL), which are critical to our success," says Wissing, adding that the value of using an Infor application went beyond the vertical industry functionality in the application.

In the Blockbuster implementation, Infor SCM Warehouse Management works in conjunction with the company's warehouse control systems (WCS), which are used to manage the sophisticated carousel system, A-frames, sorters, and packaging equipment at the McKinney fulfillment center. According to Wissing, Infor's application is the front-end solution that delivers large volumes of data to Blockbuster's WCS. "Without the WMS solution, we wouldn't be able to leverage our WCS," he says. "It was the only solution that gave us a data pipe that was big enough."

Results and Payoffs. With several years of experience to draw on, Wissing says with confidence that the solution has made a significant contribution to Blockbuster's bottom line. "We've saved millions and millions of dollars using Warehouse Management," he says. "The typical ROI for a solution like this is five to seven years, but with this solution, we got a return on our investment in half the time."

To support this point, Wissing cites a number of business metrics. For example, before the Infor implementation, the McKinney fulfillment center could perform 45 to 120 picks and puts per hour. After implementation, productivity rates increased by a factor of four.

In addition to increased order processing speed, the solution also has enabled Blockbuster to improve the overall accuracy. Wissing notes that Infor SCM Warehouse Management has helped Blockbuster achieve 99.97 percent accuracy in order fulfillment and other business processes. "We went from a paper-based system that was, in effect, a dinosaur, to a state-of-the-art system that contributes significantly to controlling costs and improving service levels," Wissing says.

As proof of the productivity improvement, he notes that despite the typical warehouse employee attrition rate, Blockbuster has been able to maintain the same business volume without replacing workers who have left.

When it invested in its warehouse management application, Blockbuster was looking for a solution that could meet its needs today and in the future. "You always have to consider the future when investing in a new solution," Wissing says. "This system has been an excellent fit for our current business and is proving to be a strong, long-term strategic asset capable of supporting our business as it changes."

Conclusion: Winning in hypercompetitive markets

As the experiences of best-in-class performers clearly demonstrate, there are enormous gains in warehouse performance to be realized through the implementation of advanced systems. Manufacturers and distributors that have invested in advanced warehouse management solutions are strengthening order management, increasing labor productivity, and maximizing their use of warehouse assets.

As customer demands rise and supply chains grow increasingly global, companies will need to drive gains in warehouse productivity and performance to avoid crushing costs. But, just as important, these investments promise to pay off in terms of greater warehouse visibility, agility, and productivity. They lay the foundations for profitable growth and market success in the hypercompetitive markets of today and tomorrow.

About Infor SCM Warehouse Management

Infor acquires and develops functionally rich software backed by thousands of domain experts and then makes it better through continuous innovation, faster implementation options, global enablement, and flexible buying options. Infor solutions include enterprise resource planning (ERP) and Infor SCM Warehouse Management (WMS). Infor solutions are proven, with built-in business-specific functionality that enables companies of all sizes to reduce total cost of ownership. Based in Alpharetta, Georgia, Infor has direct offices in 125 countries and a network of partners around the world. For additional information, visit www.infor.com/solutions/scm/wms/

About Infor

Infor acquires and develops functionally rich software backed by thousands of domain experts and then makes it better through continuous innovation, faster implementation options, global enablement, and flexible buying options. In a few short years, Infor has become the third largest provider of business software. For additional information, visit www.infor.com.

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