



The Bottom Line Benefits of Productivity Management in Retail Distribution

A RedPrairie™ White Paper

Executive Summary

Retailing is one of the world's most challenging and competitive industries. Regardless of the segment, traditional retailers, catalogers and new "e-tailers" face an environment characterized by intense competition - too many outlets chasing too few consumers - and the need to invest heavily in information technology to reduce operating costs and improve margins and customer satisfaction.

In recent years retailers have made significant investments in supply chain management improvements to complement the continuous focus (by traditional retailers) on store operations. These investments have included latest generation warehouse management systems (WMS), sophisticated inventory management and replenishment systems, new technologies and processes required to support flow-through and cross-dock distribution center operations, and more recently, such initiatives as collaborative planning, forecasting and replenishment (CPFR).

Retailing is distribution intensive, and a retailer's level of distribution efficiency is often an important driver of its market success - or mediocrity. As a result of the critical role of distribution and generally tight margins, retailers have been less likely to outsource distribution to third party logistics (3PL) providers than many other industries. For many retailers, distribution is a mission critical core competency important to keep in-house, both to keep costs low and to maintain distribution control.

Yet, despite the critical role of distribution efficiency in overall competitiveness and the significant investment of most retailers in information technology, material handling systems and physical assets to support distribution center operations, most companies are missing a significant opportunity to drive down distribution costs through improved productivity management.

Today's advanced productivity management systems combine powerful software support with improved operational methods, engineered standards and goal setting. As a result, productivity management represents extremely low hanging fruit that can help retailers simultaneously achieve significantly increased labor and equipment productivity, better employee retention, and improved quality. Productivity management can therefore provide significant bottom line benefits, achieved with accelerated ROI and low implementation risk.

Many retailers, starting a decade ago in the grocery industry but increasingly in other retail segments, have already realized the substantial benefits of advanced productivity management. However, it is just starting to gain widespread interest and adoption in the broader retail industry, driven by the compelling nature of the productivity value proposition.

Advanced productivity management provides an easy path to achieve cost reduction, improved employee relations, and better distribution management control. It is a powerful tool that every retailer should consider for their operations.

Today's Labor Challenges

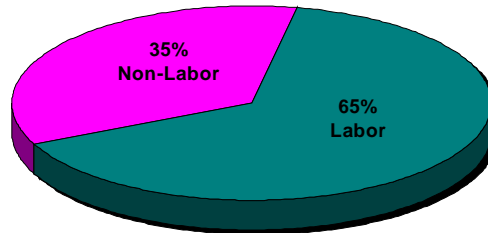
Retailers operate in a challenging labor environment for several reasons:

Distribution labor intensity:

Labor is almost universally the largest component of distribution costs, but the ratio tends to be especially high in retail DCs, given the inherent operational complexity and the significant level of labor-intensive piece or split case picking and value-added services (e.g., price marking). Despite significant and successful efforts to develop flow through distribution paradigms, push ticketing and other store-ready processing back on

suppliers, labor costs can easily represent 50 percent or more of a retail DCs operating costs and millions of dollars of payroll expense for all but the smallest retailers and catalogers. While this high labor cost factor has led most retailers to invest in at least moderate levels of material handling automation, generally at costs that run well into the millions of dollars for a single DC, improvements in labor productivity and subsequent operating cost reductions can have an even more significant impact on company profitability and net profit margins.

Figure 1. Labor Can Represent Up to 65% of Total DC Costs



Complex planning environment:

Labor and resource planning for retailers is difficult due to the high level of overall distribution complexity, high seasonality and extensive use of promotions. Knowing the optimal staffing level to meet the specific work profiles of a given labor shift can reduce overall costs, decrease the need for overtime, and ensure timely fulfillment of merchandise to stores or customers.

In large DCs that may employ as many as several hundred operators, manual methods of planning are almost impossible to use effectively, and even in mid-sized operations improved planning can deliver significant efficiency benefits.

Focus on Labor Quality and Retention:

The distribution labor market continues to be tight, with operator retention and

training of new employees representing significant issues for most retailers. The true costs of operator turnover in terms of lost productivity, new hire training costs and poor quality are often significant, and not always well quantified in logistics accounting. Solutions that improve employee retention and drive improved DC quality can therefore have a major impact on efficiency and total distribution costs.

Need to Quantify “Total Through Costs”: Most large retailers are deploying increasingly sophisticated systems to determine the “total through costs” of products to calculate true SKU / category profitability, rather than the simple net margin analysis used in the past. Despite significant improvements in this area, discrete measurement of actual DC labor costs associated with a specific SKU / SKU family have been difficult to measure, leading most retailers to simply estimate DC costs based on certain product and handling characteristics.

Having the capability to more accurately measure distribution costs by vendor / category / SKU would enable retailers to make better merchandising and distribution decisions, and better calculate true product profitability.

Given this challenging labor environment, it seems clear that retailers have much to gain, both operationally and financially, from dramatically improved labor management. Fortunately, LMS tools now exist to achieve these goals, as an increasing wide array of retailers are starting to find.

Case Study – CSK Auto

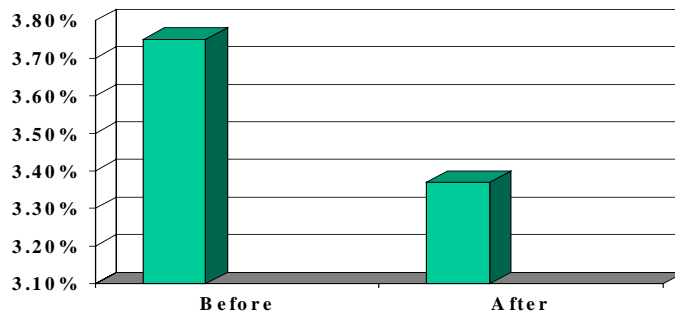
CSK Auto Inc. owns and operates more than 1,150 retail auto parts stores in 19 states under the brand names Checker Auto Parts, Schuck's Auto Supply, and Kragen Auto Parts, with total sales well over \$1 billion annually.

While enjoying rapid sales growth in the late 1990s, CSK was experiencing challenges in its distribution operations. Warehousing and distribution costs were rising faster than sales and were unacceptably high. The company was unable to track performance and productivity at the individual level, contributing to an inability to adequately control DC labor costs. And the company did not have planning and monitoring tools to give DC management a real-time view into labor requirements and operational status.

To address these challenges, CSK turned to RedPrairie to provide a total labor management solution, including engineering services for preferred methods and discrete standards development, and RedPrairie's DLx® Labor software for robust labor planning and reporting.

The results have been exceptional. Productivity increased substantially in all areas, with order picking realizing a productivity gain of over 12 percent. Overtime decreased by nearly 50 percent. As a result, total distribution costs as a percentage of company sales decreased by more than 10 percent, adding more than \$1 million annually to the retailer's bottom line.

Figure 2. Warehousing & Distribution Expense as a Percentage of Sales



Improved Overall Productivity by more than 10%, adding \$1 million to CSK's bottom line!

In addition to these direct financial benefits, CSK gained the ability to track performance at the individual operator level and increased DC operator morale as a result of being able to implement a fair and effective incentive program.

Notes Sun Granata, director of logistics for CSK: "We chose RedPrairie because of their expertise in engineered standards and worked with them to develop preferred methods for pulling, shipping and receiving operations." The standards were then implemented within the DLx® labor

software and used to calculate discrete goal times in real-time throughout the DC. This improved labor planning, employee feedback and management reporting.

New Approach to Productivity Management

Today, retailers can achieve higher productivity, lower costs, improved quality and greater operator satisfaction and retention through productivity management solutions.

While delivering substantial results, the basic components of a productivity management system are easy to grasp. They include:

Management buy-in: Companies embarking on a new approach to productivity management must drive the effort from the top of the logistics organization, and recognize that for maximum success this must be more than an “engineering project.” Management understanding, support and involvement is key to remove the barriers to improved productivity and create an environment in which productivity management processes and technology can flourish.

Best practices and preferred methods: Improvements in labor productivity must be based on the fundamental platform of best practice (the most appropriate overall DC processes and material flows) and preferred methods (the optimal way to perform a specific task).

Most companies are familiar with the concept of best practice, but even many long-term logistics practitioners are not familiar with the deployment of preferred methods. As a result, most warehouses have multiple workers performing a given task (e.g., order picking) in different ways. This results in sub-optimal performance and inefficiency. Developing preferred methods will increase productivity and provide the foundation upon which subsequent goal time calculations will be based.

Often in distribution, the focus is on *what* is being done, and much less about specifically *how* the job should be performed. Preferred methods development involves determining the most effective way to perform a task within the constraints of maintaining overall quality and employee safety.

Small ergonomic improvements can add up to significant productivity gains with multiple workers performing the same task hundreds of times per day.

Figure 3. Preferred Methods Development is a Critical Foundation for Labor Management



Discrete standards and measurement: Most companies that measure DC labor productivity do so at an aggregate level, using average metrics across multiple employees (such as units per hour) that obfuscates individual performance levels. Even if the company can track individual performance, they generally lack the capability to quantify the specific details of each task to provide a fair and accurate capture of the total work performed.

With discrete, engineered standards, the specific physical activities and associated goal times associated with that job or task (based on preferred methods) are carefully delineated.

An important related concept is that of Key Volume Indicators (KVIs). KVIs measure the amount of work performed in order to complete a given task. All direct labor in the DC should be associated with one or more KVIs. For example, a case order-picking task might be described as follows:

- ❑ **KVI 0** – Document time: overhead time given once per pick assignment
- ❑ **KVI 1** – Order time: time given for each individual order
- ❑ **KVI 2** – Aisle time: time to travel a given aisle length
- ❑ **KVI 3** – Pallet time: time to obtain pallet
- ❑ **KVI 4** – Item time: time for each different line item
- ❑ **KVI 5** – Piece time: time to select and place each case

Critical to the process is the recognition, capture and measurement of the precise, discrete nature of the work required within a task type *for this specific assignment*.

For example, the labor software must recognize that a piece pick from the chest-high golden zone is easier (and thus should be accomplished more quickly) than one from the bottom level; or that replenishment of large, extremely heavy cases may take slightly longer per case than for smaller, lighter boxes. Such an approach is inherently more fair and accurate, and eliminates the types of gamesmanship that can occur in non-discrete systems where workers

try to ‘cherry pick’ easier assignments to boost their individual performance.

To develop discrete goal times, labor software must make calculations based on a number of key factors, such as a three-dimensional map of the DC, information about the specific speeds and capabilities of material handling equipment, and the preferred methods and discrete standards for individual task types.

Discrete work standards and measurement are especially important in retail distribution, given its complex nature, heavy piece and case pick requirements, wide variety of SKUs handled, and large distribution facilities.

Robust labor reporting: Productivity management must include software capable of robust reporting that enables employees and supervisors to obtain detailed, accurate results of performance against standards. This reporting should be available by individual employee, activity (e.g., order picking), area (e.g., pick to belt lines) or customer / vendor. Reporting by vendor combined with the activity-based costing inherent in labor management software, enables retailers to accurately determine logistics and total through costs for a particular SKU family or individual vendor’s product line. Increasingly, companies are looking for labor reporting to be deployable over the web, so it can be easily accessed on-line by managers from headquarters, on the road, etc.

Figure 4. Detailed Reporting at the Individual Employee Level Drives Enhanced Productivity and the Capability to Implement Incentive Programs

Employee Summary Report														
Emp ID	Employee Name	Date	Perf %	Std Hours	Dir Hours	Ind Hours	Total Hours	Sched %	Ind %	Lost Time	Select Pieces	Select Hours	Select %	Pieces / hour
621	Calderon, Ed	1/27/92	97%	6.9	7.1	0.2	7.3	97%	3%	0	815	7.1	98%	115
485	Connor, Lonnie	1/27/92	100%	5.6	5.6	1.2	6.8	82%	18%	17	789	5.6	100%	141
521	Rodriguez, Gio	1/27/92	99%	6.8	6.9	1.1	8.0	86%	14%	0	880	6.9	98%	128
563	Roman, Steve	1/27/92	74%	4.9	6.6	0.07	7.3	90%	10%	0	714	6.6	74%	108
605	Sislofsky, Russ	1/27/92	122%	8.3	6.8	0.5	7.3	93%	7%	0	1032	6.8	126%	158
** RANGE TOTAL**			98%	32.5	33	3.7	36.7	90%	10%	17	4230	33	98%	129

Resource planning and simulation: In order to optimize labor resources, management must be able to determine the appropriate staffing levels by area and activity, and be able to monitor work progress against these planned expectations. This planning can be performed daily, by shift or over even shorter time increments (e.g., every two hours). Because the labor software understands the discrete work to be accomplished, it can predict with great accuracy the resources and time required to complete the work. A real-time operations monitoring capability can then provide management with tools to assess the progress of the work against its planned completion, and take management action or deploy additional resources if the work progress is off schedule.

Labor planning capabilities can also be used to simulate potential process or technology changes to assess their impact on DC costs. This provides a much more precise estimate of the potential payback of a proposed improvement or material handling investment or the potential cost of a new service function or activity being proposed for the DC.

Benefits of Productivity Management in Retail Distribution

Retailers stand to gain many benefits from productivity management implementations and can achieve competitive advantage over other chains in their segment that are slow to adopt advanced labor processes and technology. Key benefits to retailers from productivity management include:

Increased labor productivity: This is a direct benefit that can add millions of dollars to the bottom line. While actual productivity gains vary depending on a retailer's specific circumstances, total improvement of at least 10 percent is common. Some retailers can expect to achieve even greater overall improvements, and productivity gains in specific areas (such as order picking) can be substantially higher, often as much as 40 percent.

These productivity gains result from the combination of labor management software, adoption of preferred methods, and development and reporting against discrete engineered standards. The influence of these different elements in driving productivity gains is as follows:

Figure 5. Potential Productivity Gains Through Productivity Management

Area	Potential Productivity Gain
Labor management software	5-20%
Labor software with preferred methods	10-30%
Labor software, preferred methods, and discrete standards	20-40%

The bottom line is that productivity management offers significant labor cost savings that generate a rapid return on investment. This return comes with very little risk, since actual savings are almost always within a very small delta of those that can be predicted based on an evaluation prior to labor system implementation.

Improved resource utilization: Planning capabilities inherent in certain productivity management systems enable improved employee utilization and better resource management through the ability to determine operating requirements across appropriate timeframes (day, shift, pick wave, etc).

Greater DC operations control: Productivity management systems provide distribution managers with a superior level of operational control. This enhanced control is obtained through a combination of execution consistency, achieved as a result of preferred method adoption, and software tools such as a real-time operations monitor that can measure activity and throughput performance against the expected plan.

Improved employee retention: Perhaps unexpectedly, adoption of productivity management almost invariably increases employee retention. By providing operators with the training to do their jobs right and giving them fair and accurate feedback on their actual performance, companies that implement productivity management find their employee turnover decreases, often substantially. This reduces turnover costs and is especially critical in today's tight labor market.

Ability to implement employee incentive programs: Discrete standards and the supporting labor management software provide the necessary foundation for incentive programs that are fair, accurate and easy to measure and administer. This further increases employee satisfaction and retention, while the company benefits from the resulting increases in productivity.

Measurement of "total through costs": Activity-based costing on a granular level enables retailers to easily and accurately measure the cost of logistics by SKU and vendor.

In total, the benefits retailers can realize through productivity management system implementation are substantial. As AMR Research has noted: "For most companies, warehouse operations represent cost centers with labor comprising a significant portion of the

cost. Small improvements in labor productivity can often make the difference between profit and loss, especially in low-margin businesses.”

Case Study – Large National Grocer

One of the largest grocery chains in the U.S. came to RedPrairie with a common set of retail problems. Costs were not being sufficiently controlled throughout its distribution network, impacting profitability in this low margin business. Facility throughput was deemed below expectations, and DC managers and supervisors lacked the tools to adequately plan manpower requirements by shift and activity.

These challenges were putting additional pressures on the grocer’s distribution management – operation of the least efficient DCs was being considered for outsource to third party logistics (3PL) providers.

The company turned to RedPrairie for implementation of RedPrairie’s productivity management solution in 18 DCs across the U.S. The implementations included: preferred methods development for all critical activities from receiving to outbound truck loading, corresponding discrete performance standards for those functions, and RedPrairie’s DLx® Labor software for robust reporting and planning capabilities.

The results have been exceptional. Productivity increased an average of 10 percent across the network, driving millions of dollars to the bottom line. There was a corresponding increase in facility throughput, allowing the DCs to reach performance objectives and increase the company’s return on assets (ROA) for its investment in brick and mortar.

DLx® Labor provides the retailer’s DC managers greatly improved planning capabilities to accurately estimate labor requirements both at the beginning and throughout each labor shift, improving resource utilization and fulfillment consistency.

Finally, the labor infrastructure provided by the productivity management approach enabled this retailer to greatly reduce the time it requires to train new hires and temps and make them productive, reducing training costs and improving productivity and quality.

RedPrairie’s Productivity Management Solution

RedPrairie is by far the industry leader in productivity management solutions, with more installations than the rest of the market combined. RedPrairie productivity management customers in the retail industry include Kroger, SuperValu, CSK Auto, Advanced Auto, Amazon.com, Wal-Mart, Safeway and many others.

RedPrairie’s productivity management solution encompasses four components that collectively ensure dramatic results. These include:

- Value / ROI quantification through a comprehensive value analysis (RedPrairie's Logistics Operations Analysis) that details the specific levels of savings and performance improvements a company can achieve.
- Identification of best practice, preferred methods and operational metrics for DC operations
- Advanced productivity and resource planning software (DLx® Labor) that provides comprehensive, real-time and historical labor performance metrics and reporting against objectives, activity-based costing, customer or channel "cost to serve" analysis, and the ability to reliably plan labor and resource utilization across the DC, reducing costs and improving predictability.
- Complete engineering and change management services.

Logistics Operations Analysis

RedPrairie's Logistics Operations Analysis (LOA) helps retailers identify opportunities for unlocking value in their operations through productivity management. During the LOA process, RedPrairie engineers with extensive productivity management experience spend 1-2 days or more on site to evaluate current operations and the opportunities for improvement and savings through the implementation of productivity management solutions.

After these observations and interviews with key distribution managers, RedPrairie produces a professional evaluation report, the heart of which is an "opportunity matrix" that compares the retailer's current capabilities and processes across a number of key attributes against the potential for improvement through implementation of productivity management. This analysis drives detailed cost justification and ROI numbers that will make the economic impact of productivity management implementation clear.

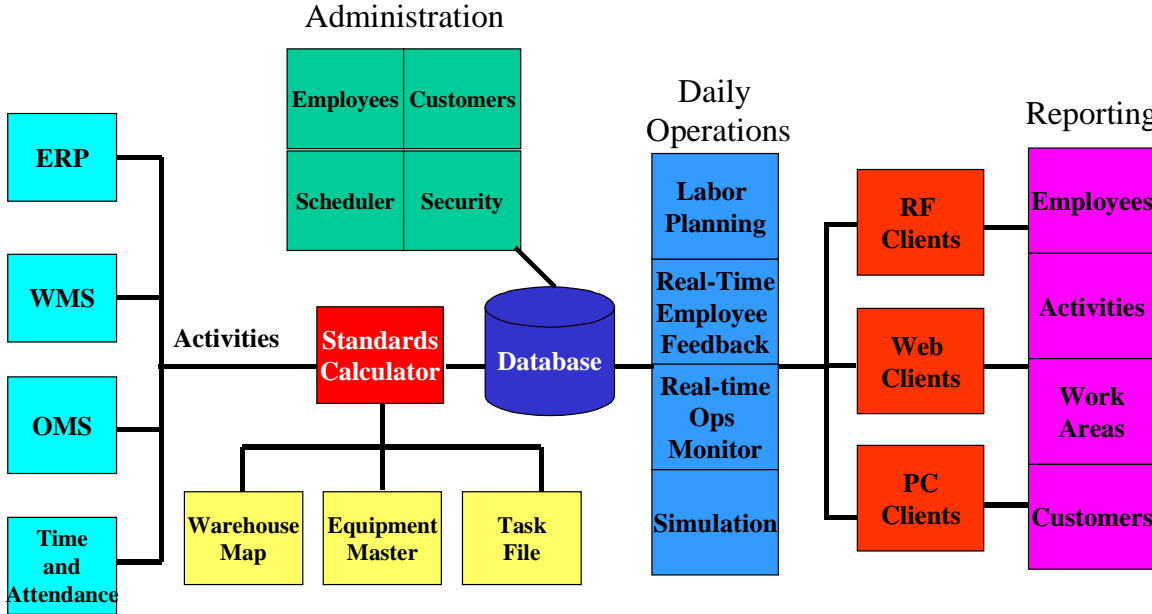
The RedPrairie LOA is a low cost, low risk way to quickly determine the potential for labor management to make significant improvements in any retail distribution operation.

DLx® Labor

The core of RedPrairie's DLx® Labor is the standards calculation engine, which processes activities from external applications, such as order management systems, and determines specific goal times for each piece of work. Goal times are generated based on several factors, including:

- ❑ [3D map of the DC](#) to determine exact physical distances in all directions
- ❑ [Equipment master file](#) that understands the capabilities and speeds of all material handling devices (fork trucks, pallet jacks, etc.)
- ❑ [Task master file](#) that applies the appropriate discrete standards for each task, adjusted based on the physical distances from the 3D map and the capability of the specific piece of equipment, if any, the operator is using.

Figure 6. RedPrairie's DLx® Labor System



The standards engine provides the platform for determining goal times, and therefore enables resource planning and simulation. Employee feedback and management reporting are then generated based on comparisons of actual results with system-determined expectations.

Many companies provide employee feedback on a real-time basis, leveraging the investments they have already made in radio frequency (RF) equipment. This enables both goal times and performance against goals to be communicated directly to employees in real-time as they perform a given set of tasks.

Figure 7. RedPrairie's Productivity Management System Integrates with RF Networks to Provide Real-Time Employee Feedback

Job Assignment

Enter Employee ID: DEG7316

Enter Document Number or Indirect Code: 94513

Enter ISTOP to sign off

Performance on last assignment: 105%

Percent for day: 100

Total direct minutes: 236

Total standard minutes: 236 minutes

Goal time: 24 minutes

Press Enter to continue, ESC to Exit.

RedPrairie offers clients significant deployment flexibility. DLx® Labor can be deployed on a stand-alone basis, with integration to the customer's current WMS, ERP or legacy systems, or is available pre-integrated with RedPrairie's best-in-class warehouse management system, DLx® Warehouse. DLx® Labor and DLx® Warehouse are fundamental components of RedPrairie's DigitalLogistix™ product suite.

DLx® Labor provides the industry's deepest productivity functionality, bolstered with aggressive development of new capabilities. This level of on-going support and development is absent from most other productivity management solutions such as those offered by consulting organizations, whose primary focus is services.

RedPrairie's DLx® Labor solution has all the capabilities required for retailers to significantly improve their labor productivity, improve operational planning and control, and determine total through costs by SKU and vendor.

Summary

Productivity management offers extremely low hanging fruit that should be seriously considered by all but the smallest retailers. The benefits are clear:

- Significant productivity and throughput gains, driving millions of dollars to the bottom line
- Enhanced management control
- Detailed understanding of true logistics costs

Many retailers have already experienced the benefits of productivity management. There is a growing interest from other retailers in many segments to achieve similar benefits and the accelerated ROI that productivity management offers. Soon the market will be split between those retailers that have adopted productivity management and gained competitive advantage as a result, and those retailers that must compete while burdened with higher distribution costs and lower throughput in their DC operations.

RedPrairie is the market leader, providing a powerful productivity solution that has been implemented successfully by many retailers. RedPrairie's LOA methodology offers an easy way to quickly determine whether productivity management can offer similar benefits for any retailer.

About RedPrairie

RedPrairie delivers superior logistics results by driving out more logistics costs than anyone in the industry, and enabling customers to consistently achieve their supply chain objectives. This is accomplished through an integrated suite of DigitaLogistix™ solutions that provide the industry's leading transportation, productivity, and distribution management capabilities, enhanced with action-oriented components for real-time control and performance measurement. These solutions are deployed through an end-to-end value delivery system (the RedPrairie Approach) that ensures results achievement. RedPrairie delivers measurable results for customers in many markets, including high tech and electronics, consumer goods, food and beverage, third party logistics, retail and wholesale, service parts, and make-to-order manufacturing.

Customers include Wal-Mart, Procter & Gamble, Safeway, Kroger, Georgia-Pacific, Advanced Auto, Keebler, Unilever, CSK Auto, Amazon.com, and many others.

Headquartered in Waukesha, WI, RedPrairie Corporation has offices in Shelton, CT; Cary, NC; Eden Prairie, MN; and Brussels, Belgium. For additional information, call toll-free 1.888.624.8448 or access www.redprairie.com.

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