



Strategic Labor Management in a Mass Customized World

A Series on Lean Labor Management: Part II

White Paper

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Executive Summary

As more organizations look at offshoring as a basis to compete on cost, recent studies are beginning to reveal the flaws with this strategy. Moreover, while low cost country sourcing provides benefits in the form of lower labor costs, this is often at the expense of longer leadtimes, inventory commitments and asset losses, and most importantly, an inability to react and meet customer requirements. One of the major changes in the current retail market is the drive towards increased responsiveness, packaging customization, customer-specific pick/pack/ship requirements, all with an inability to charge premium pricing. As a result, more and more companies are finding that their domestic distribution labor costs are increasing, as more of this activity is taking place in North America via postponement strategies in the distribution centers. Not surprisingly, the demand for semi-skilled DC labor is expanding, and many firms are employing “temporary labor” as a stopgap measure. Under conditions of supply shortages of semi-skilled labor, the US has seen a steady growth in labor rates, which is likely to increase exponentially in the next five years. This is of significant concern to senior executives in the logistics industry, and Labor Management Systems are being touted as a way to address these systems.

In recent discussions and as part of this white paper series, we have identified a number of important trends impacting this situation, which we will discuss. These have been identified in the form of five hypotheses, which we will discuss:

- Mass customization requirements are on the rise.
- Labor plays an increasingly critical role in addressing customer requirements for mass customization.
- The need for on-demand, variable cost labor in the supply chain is rising due to this trend, and is likely to continue to increase.
- The majority of firms faced with this challenges have misaligned and “ad hoc” processes and strategies for managing the demand for semi-skilled labor
- Best-in-class firms view labor as a strategic resource, which can be measured against a labor management maturity assessment.

To test and validate these hypotheses, we undertook a multi-year research study which involved multiple interviews with manufacturers, 3PL’s, contract labor providers, retailers, and consultants. We focused on the analysis of the current situation and the likely changes in this industry in the next 3 to 5 years. The study was performed using a process consisting of facilitated brainstorming, structured interviews, primary data collection with multiple subject matter experts and secondary research to address how executives are implementing contracted labor management providers to innovate and redesign their current warehouse and distribution systems. The results provide some important insights to executives who are confronted by the challenges of a shrinking labor force and increased throughput and productivity requirements in their systems.

Based on our empirical analysis of the data, the following key points emerged from our research.

- **Merchandising and mass customization is here to stay**
- **Mass Customization is driving the need for a flexible, adaptable workforce that can respond to rapid changes in product and demand requirements**
- **Labor will continue to be a challenge; the same hiring techniques that worked in 1980's don't work in the 21st century.**
- **Labor sourcing should be about building an external resource that can help manufacturers and distributors address shifting and uncertain customer requirements.**
- **Performance-based labor is about buying an outcome, not a service which has no accountability.**
- **Performance-based labor strategies must align with the customer's requirements for mass customization**

Some of the key elements to consider in building a contract labor distribution and manufacturing strategy involve the following lessons learned:

- **Begin slowly, and spend time to study the process.**
- **Work with a supplier that has a strong industrial engineering team, who can build a process model, drive efficiency, and design a new process that will work with a contract labor workforce**
- **Work with the supplier to drive key metrics that align with the facility's strategic plan. Focus on productivity output, quality, and accuracy, but also build these service level agreements into incentive formats that will drive continuous improvement.**
- **Be prepared for a period of challenge during the transition. Work to communicate as much as possible with your existing workforce, and strive NOT to replace full-time workers with temporary workers.**
- **Work to build a common team spirit, and to integrate the contract labor workforce into the facility. Continue to drive improvement and cost savings through analysis, metrics, and weekly discussion with the supplier's management team, and solve problems as they arise.**

These results provide and augment the first paper in this lean labor white paper series, which will continue to explore where the future for labor market strategies lie.

Challenges Facing Manufacturing and Distribution in the 21st century

The boom in China as the manufacturing center of the world has brought about a massive outsourcing of manufacturing jobs to this low cost labor capital. China is now the manufacturing center of the world, and has expanded rapidly in its ability to adopt modern Western supply chain capabilities. Prior research in this area points to the rapid growth of knowledge and adoption of Western best practices in supply chain management. Often dismissed as a source of only low cost labor, China has grown in its sophisticated application of supply chain processes, logistics excellence, and lean management approaches.ⁱ

Concurrent with the move towards offshoring, domestic manufacturers are also feeling another pull which bucks this trend. Based on discussions with multiple executives in a recent white paper, it is becoming increasingly apparent that power of retail and consolidation in customer-facing firms is driving a need towards increasingly customized products and logistics services. In today's highly competitive and dynamic business environment it is not enough for firms to offer high value products and services, with short cycle times. They also need to be responsive to quick swings in customer demands preferences, and be able to provide innovative new products that generate new market demand (Pine II, 1993). To achieve this objective, firms must build rapid insight into customer requirements, and translate this rapidly into product offerings which rely on an increasingly outsourced set of resources in the supply chain. This is often known as "mass customization", and involves specialized distribution services, postponement and late customization, increasingly fragmented products, increased shipping frequency to demographically aligned product market categories..

Unfortunately, the current retail environment does not allow for these increased costs to be passed on to retailers, and indeed, there is increasingly pressure to drive down prices, improve marketing, lower inventory, and standardize processes. Although outsourcing of make to stock products is increasingly occurring in China and Low Cost Countries, distributors are finding that warehouses are the vehicle for customizing products. These late postponement processes have to occur close to the customer, which means that labor requirements for these warehouse-related activities is increasing.



Internal Cost Squeeze

- Leadership demands lower costs
- Fragmented service requirements
- Lower balance sheet/inventory
- Fewer resources
- Improve marketing
- Fewer receivables
- Delayed payments
- Longer pay. cycle



Retailer Squeeze

- Private labels
- More customization
- Specialized services
- Segmentation mandate
- Size of orders going down
- Increased shipping frequency
- Late delivery penalties
- Higher returns deductions

Environmental Squeeze

- Transportation costs
- Driver shortage
- Retailer consolidation
- Product fragmentation
- Lack of innovative new products
- New market channels
- E-stores

Systems Challenges

- Data integrity
- Lack of systems integration
- Lack of functionality
- Making data actionable
- Lack of visibility
- Last minute promotions

In summary, the following challenges are occurring in the value chain:

- Increasing outsourcing of manufacturing to China
- Increasing pressure to reduce supply chain costs
- Increasing pressure to mass-customize products, packaging, and logistics processes close to the customer in the US
- Increasing demand for labor to perform these processes locally

In this research paper, we explore these trends within the context of the impact on labor management. These trends will, we believe, lead to a major shift in the way organizations structure their distribution channels, and how they manage labor in the supply chain. In the remainder of the paper, we review the following:

- Cost of labor in the supply chain
- Role of labor in the value chain
- Need for on-demand labor in the US
- Misalignment of labor models to manage these requirements
- The need for supply chain strategies to manage labor in this new model

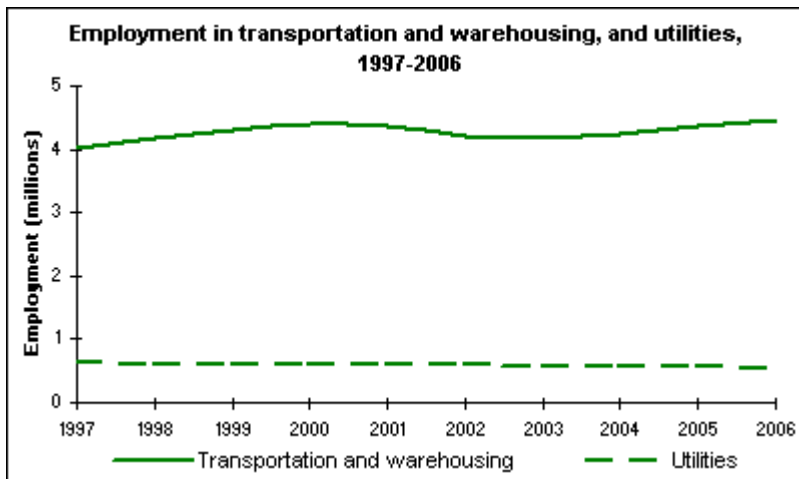
Labor content in the supply chain is rising end to end.

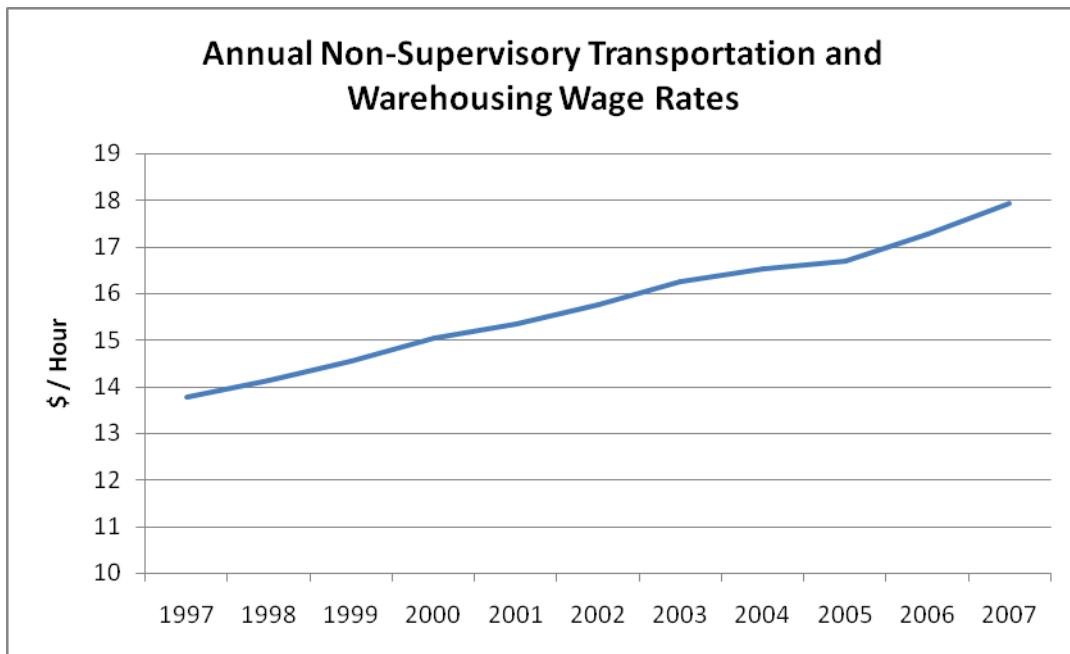
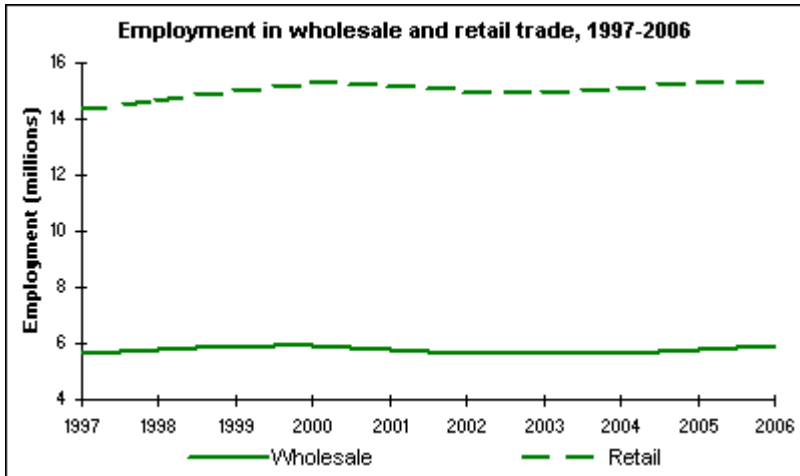
Although a majority of individuals cite the increasing nature of material and commodity prices driving supply chain costs, a recent trend is beginning to identify another component of cost that is beginning to escalate: Labor content.

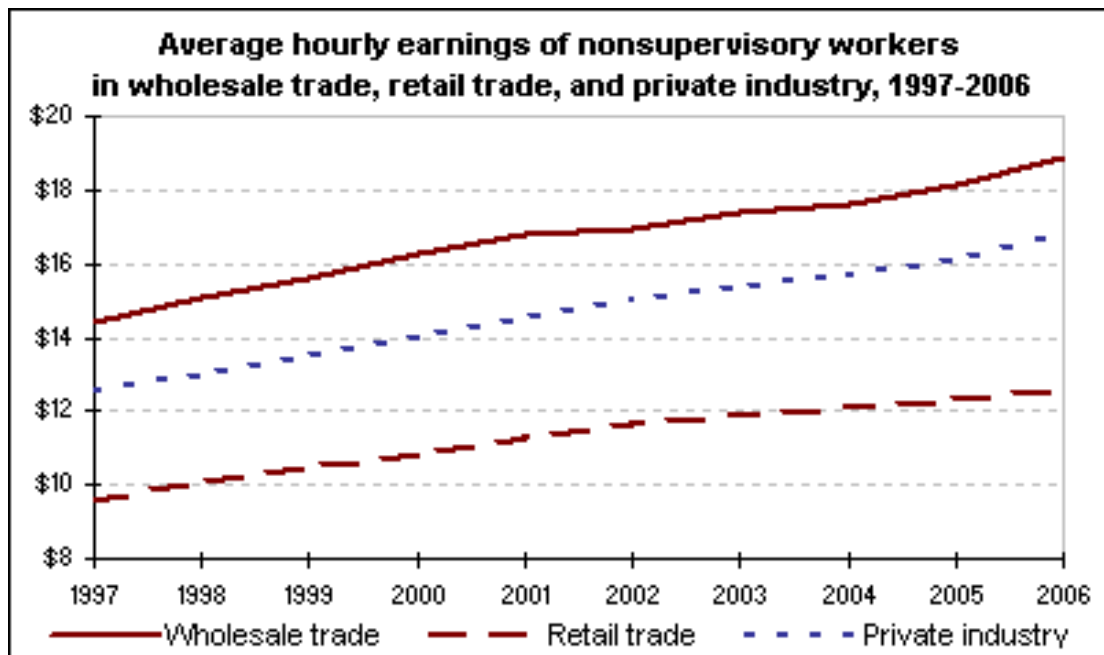
The Bureau of Labor Statistics shows that although employment in the logistics sector (4,465,800) has increased significantly (11%) since 1997. At the same time, the percentage of non-supervisory workers during this same period increased by 13%, and reached an all-time high of 2,885,100 in 2006.

- Current Employment Statistics estimates also show that Retail trade employment averaged 15,319,300 in 2006, **an all-time high**. Annual average retail trade employment was 14,388,900 in 1997.
- Average annual employment of nonsupervisory workers in wholesale trade, which was 4,523,200 in 1997, **reached an all-time high of 4,719,400 in 2006**.
- Employment Projections data indicate that wholesale trade employment will **increase 8.4 percent over the 2004-14 period**. Retail trade employment **will increase 11.0 percent**
- Employment Projections data indicate that transportation and warehousing employment **will increase 11.9 percent over the 2004-14 period**. Total employment for all industry sectors is projected to grow 14.8 percent.

The unemployment rate for this sector at an all time low (4%, lower than the national average of 4.6%). Not surprisingly, the cost per unit of labor has increased measurably during this same period (see Charts 1 and 2). Wages have increased **by 23%**, and the current wage rates (\$17.93) are almost 10% higher than wages in other production nonsupervisory roles (\$16.36)







The statistics point to another alarming trend. The implication? As more baby boomers go into retirement, there is likely to be increasing demand for a smaller workforce, which means that despite increasing automation in the industry that have already occurred, the major improvements in productivity have been wrung out of the traditional workforce. There will be competing demand for warehouse and distribution workers – and more attractive labor option.

The bureau of labor statistics also reports that the number of wage and salary jobs in the truck transportation and warehousing industry is expected to grow 14 percent from 2004 through 2014, compared with projected growth of 14 percent for all industries combined. Growth will result in many job openings because the industry is so large. There also will be openings due to replacement needs for the large number of workers who will transfer to other industries or retire. Job opportunities should be especially good for truck drivers and diesel service technicians and mechanics.

Some may have argued that job loss would occur due to the implementation of new distribution technologies. Because of their ability to reduce demand for labor and other resources needed in the production of the same level of output, the introduction of new technologies is invariably accompanied by fear of job losses. While this may be true at the level of a single firm or even sector, most economists stress that technological change and productivity growth have historically been associated with expanding rather than contracting total employment and rising earnings.ⁱⁱ There are various stages in this relationship: first, the introduction of a new technology should translate into real productivity growth, which requires effective learning for efficient use of the new technology (changes in the work organization, new skill requirements, etc.); second, productivity increases may or may not result in job losses, depending on the level of demand. If productivity increases are accompanied by concomitant demand increases, then there is no need to shed labor. In

fact, if improved productivity stimulates a rise in demand which is higher than productivity growth, new jobs will be created.

The end result will be the same. There will be increasing pressure on labor costs in the short term. The application of automation technology has driven enormous productivity benefits, due to the Internet, Warehouse Management Systems, RF devices, pick and pack automation, and other revolutionary innovations. However, these elements can only go so far, and ultimately the cost of labor represents a ceiling that represents the next major challenge to this level of productivity. According to data from the Productivity and Costs program, labor productivity (defined as output per hour) grew by 0.6 percent in wholesale trade from 2004 to 2005; the growth in output per hour in retail trade was 3.4 percent.

What is driving the increasing demand for labor, as well as the growth in demand for labor? Is this a short-term trend, or an element that is a function of some other major shift in the distribution and supply chain environment. Let's explore this in more detail?

Labor plays an increasing role in value chain performance.

Labor costs typically account for 50 to 65 percent of a distribution operation's variable costs. This represents a huge opportunity for improvement that is being overlooked by many companies. Additionally, due to increased distribution complexity (for example, smaller, more frequent orders and value-added services), labor costs have been rising as a percentage of total operational costs. In fact, according to Greg Aimi and Mark Atwood of AMR Research, "Operations including value-added services, late-stage assembly, high-volume item-level picking, or other labor-intensive capabilities are increasing headcount requirements and driving up costs."¹ This represents a huge opportunity for improvement that is being passed up by many companies.

The authors go on to note that it is rare to find an organization that is not trying to improve its cost position in all areas including its labor bill. However, a common approach is to use the budgeting process to 'mandate' improvements. For example, each year the wage budget may call for an improvement of a few percentage points and it is up to front-line management to find a way to meet this goal. No specific tools are provided to achieve these improvements. These incremental gains generally prove attainable by competent managers but a more significant 'step' improvement is being missed that is achievable with a formal productivity program.

Additional employment growth is resulting from manufacturers' willingness to concentrate more on their core competencies—producing goods—while outsourcing their distribution functions to trucking and warehousing companies which can perform these tasks for less money. As firms in other industries increasingly employ the industry's logistical services, such as inventory management and just-in-time shipping, many new jobs will be created. Also, as more consumers and businesses make purchases over the Internet, the expansion of electronic commerce will continue to increase demand for the transportation, logistical, and value-added services offered by the truck transportation and warehousing industry.

The problem is complicated by the fact that these jobs are difficult. Material moving work tends to be repetitive and physically demanding. Workers may lift and carry heavy objects and stoop, kneel, crouch, or crawl in awkward positions. Some work at great heights and some work outdoors, regardless of weather and climate. Some jobs expose workers to fumes, odors, loud noises, harmful materials and chemicals, or dangerous machinery. To protect their eyes, respiratory systems, and hearing, these workers wear safety clothing, such as gloves, hardhats, and other safety devices. These jobs have become much less dangerous as safety equipment—such as overhead guards on lift trucks—has become common. Accidents usually can be avoided by observing proper operating procedures and safety practices.ⁱⁱⁱ

Material movers generally work 8-hour shifts, though longer shifts also are not uncommon. In industries that work around the clock, material movers may work overnight shifts. Some do this because the establishment does not want to disturb customers during normal business hours. Refuse and recyclable material collectors often work shifts starting at 5 or 6 a.m. Some material movers work only during certain seasons, such as when the weather permits construction activity.

In a recent summit of Logistics Industry leaders, executives listed labor management as the #1 strategic issue facing the industry over the next 10 years.^{iv} Specifically, executives agreed on the following:

#1 Trend: Growing importance of demographics, labor and people

#1 Challenge: How to attract, retain and continuously develop people

#1 Impact: The current blue collar labor environment has forced industry to do more with less, to become flexible and accommodating, which has **led to increasing costs**.

Although the demand for warehouse and distribution center workers continues to increase, our interviews with executives reveal that the nature of this demand is increasingly variable in nature. This poses a real dilemma for warehouse managers – they are being pushed to drive down warehouse costs, much of which is labor related, yet the demand for labor is going up, with an increasingly shortage of qualified people who wish to work in these positions.

This trend is explored in the next section.

Trends in the supply chain are increasing requirement for on-demand cost labor.

The need to labor talent has increasingly been noted in public forums. Most recently, the Retail Industry Leaders Association (RILA) meeting held a Distribution Potpourri conference

to discuss the most pressing issues facing the industry. One of the core themes was the challenge around labor, specifically around.

- Performance Management
- Schedules and Payroll
- Recruiting

Performance Management

The most common key performance indicator cited by participants was some form of cost measure. Many look at cost as a percent of sales, but labor cost per carton and total cost per carton also received significant comment. Additional metrics that were highlighted for some companies included units or cases per hour, fill rates, on time percentages, and accuracy.

Most retailers are making use of regular daily dashboard reports to monitor productivity by area and shift. Weekly shrink reports and quality audit reports are also key tools used by management teams.

Standards and pay for performance tools have found widespread application in the retail community. More than 90 percent of the participating retailers reported using some form of standards and pay for performance program. There are wide variations in types of applications, but this represents a key improvement over the past decade and no doubt has been one of the drivers in steadily increasing retail distribution productivity. Participants reported gains ranging from 15 percent to 40 percent from these programs.

Schedules and Payroll

The trends around the labor shortage were also evident in the discussions. Multiple shifts (2 to 3) and operating days up to 7 are much more the norm today. One third of participants reported 6-day-per-week schedules with another one third reporting a 7-day-per-week schedule. Seasonality does seem to influence the need for or size of third shift operations for larger retailers.

More than 40 percent of retailers say they work at their facilities at least 20 hours a day. Another one third are working at least 16 hours a day.

What is also remarkable is that a large portion of retailers make extensive use of temporaries or part time resources. Yet two thirds of those reporting indicate their permanent mix of associates is at least 70 percent of the work force. Local conditions and total work force size are key factors in this.

Recruiting

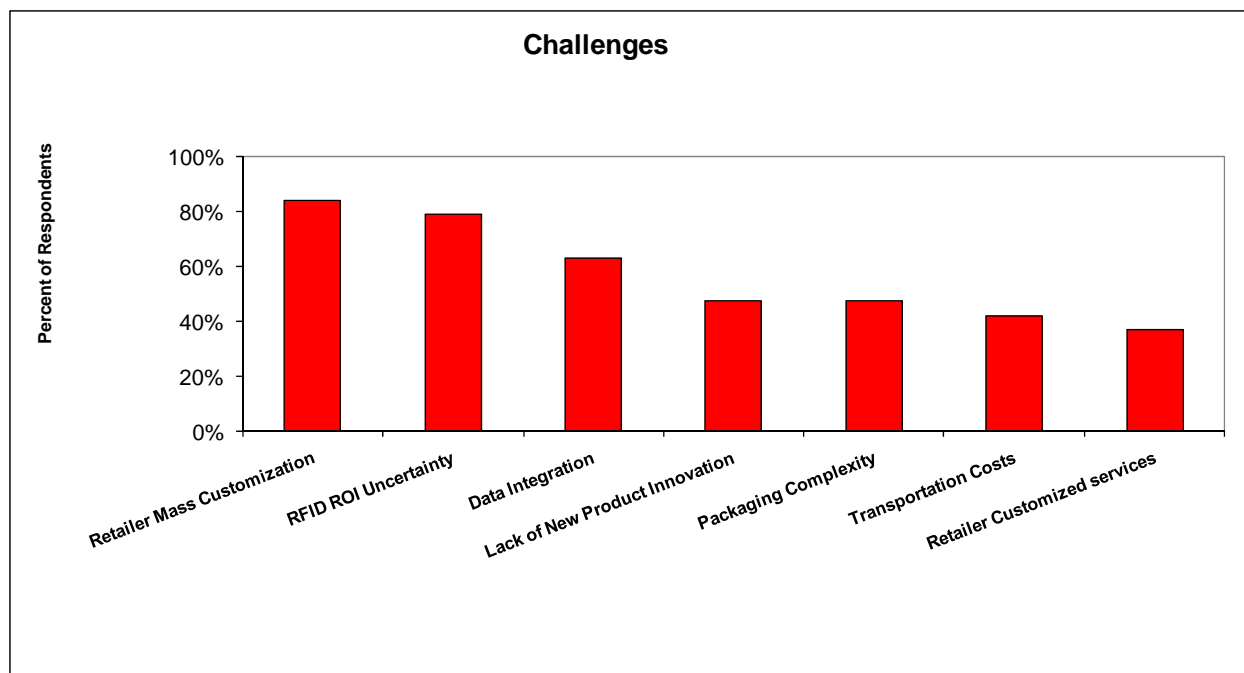
Finding new talent remains one of the biggest challenges for retailers today. Internal

development is still a key source of emerging talent for most companies. But a range of approaches from campus recruiting, headhunters, and internships are all being tried. Campus recruiting is used to find new operations leadership for less than 10 percent of retailers.

Greg Aimi and Mark Atwood, "Looking Ahead in Distribution Labor Management," AMR Research, August 2005 note that:

- "Operations including **value-added services**, late-stage assembly, high-volume item-level picking, or other labour-intensive capabilities are increasing headcount requirements and driving up costs."
- "As business processes in the supply chain gain in complexity, there is likewise a greater need to manage the effect they have on labor resources."

In a research study conducted for the Consumer Healthcare Products Association in 2006, it was found that retailer mass customization was the biggest challenge being experienced by manufacturing and distribution executives (see Chart 5). In the words of one executive,



Yet many managers are unsure on how to proceed, given the challenges around attracting a strong labor pool in many distribution operations. Moreover, many companies fail to look at labor as an important asset that requires investment and

management, particularly in the area of non-skilled temporary workers. Investments may be limited to benchmarking wages and benefits, and limited amount of in-house training. However, few companies invest in tools or strategies that are specifically focused on increasing staff productivity and staff retention. It is much more common to find investments focused on “hard assets”, such as inventory management, holding costs, and improved warehouse flow.

This problem is heightened further in line with the need for mass customization in the distribution channel. Mass customization requirements by retailers typically results in the following:

- Increased peaks and troughs in order fulfillment, picking and packing, packaging, and shipping labor requirements
- Increased quick response to seasonal co-packaging/co-marketing requirements
- Specialized packaging for products aligned with product promotions
- Frequent new product introduction with unpredictable demand swings, resulting in peaks and troughs in demand for labor
- Frequent (6-10 per year) product and distribution re-sets aligned with promotional and seasonal campaigns.

The solution that organizations turn to in all of these cases is the use of temporary warehouse and distribution center labor. Distribution managers cannot hire and re-deploy workers when demand peaks and then ebbs, so to fill the gaps, they are relying more on external temporary labor. The most common form of this outsourced solution is a temporary labor provider, including companies such as Adecco, Manpower, and others, who rely on bringing in an untrained workforce, and putting them into a job with little if any training, and requiring that they learn quickly on the job. Unfortunately, this approach has multiple problems, not the least of which is high turnover. As one manager put it, I saw a worker in my warehouse one day, and met him in the fast food drive-through handing me my coffee the next!” Workers may or may not show up, product quality can be impacted, and delivery performance may suffer.

Much of the problem associated with this issue is a function of the misalignment of current supply chain management views on how labor should be managed.

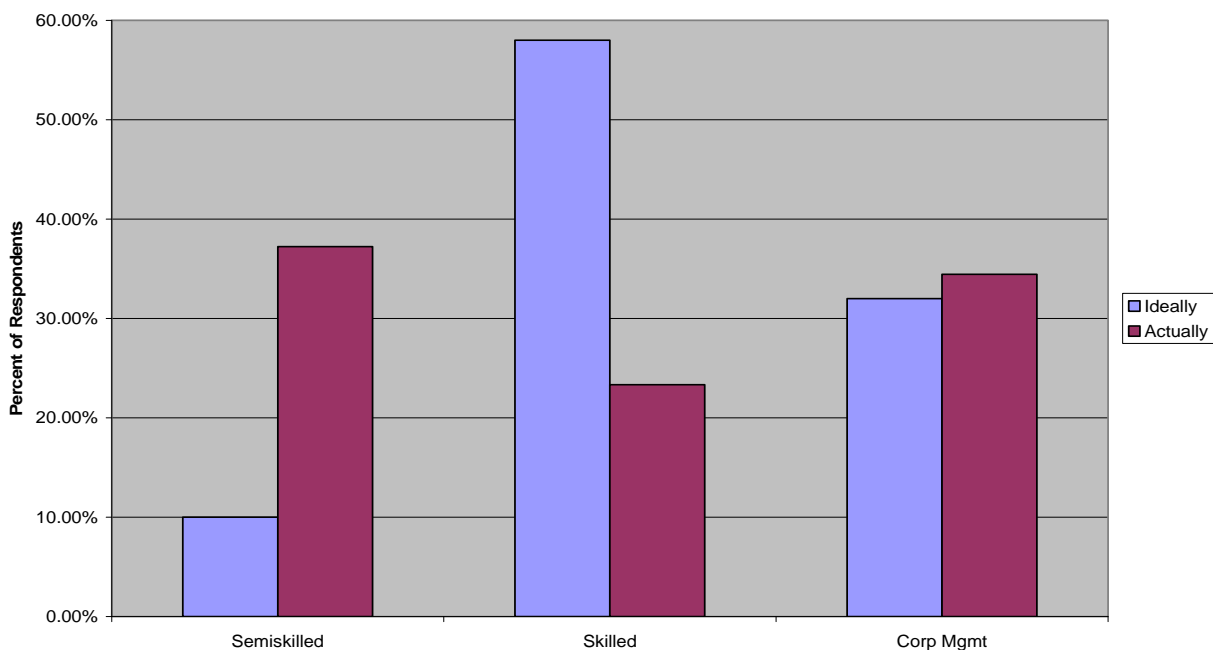
Current labor models are misaligned.

Do supply chain managers fail to understand the importance of labor. No. In fact it would be rare to find an organization that is not trying to improve its cost position in all areas, including its labor bill. However, a common approach is to use the budgeting process to “mandate” improvements. For example, each year the wage budget may call for an improvement of a few percentage points and it is up to front-line management to find a way to meet this goal. No specific tools are provided to achieve these improvements. These small incremental gains generally prove attainable by competent managers, but a more

significant “step” improvement is being missed that is achievable with a formal productivity program.

An important finding (documented in a paper written in Part I of this labor management series) was that Executives feel too much time is spent with semi-skilled workers (between 20 and 50%) and too little with skilled workers (less than 20%), and that these figures should be reversed (see Figure 1). Several managers mentioned it is “far easier to motivate a \$60,000 a year skilled worker, than a \$10/hr worker”. Work ethics are very different between the low and skilled workforces. “Skilled workers give two weeks notice” when they leave. Most low/semi skilled workers just, “don’t show up for work because they have already started a new job”. Another plant manager commented, “one new material handler resigned when I ordered breakfast from him at the local fast food drive-up. I was handed his resignation with my order”.

Figure 1 - How should your managers ideally be spending their time versus today?



Several organizations we interviewed considered “best in class” have developed advanced levels of production labor outsourcing, with a well-thought out model that was integrated into their long-range planning process. These organizations begin with a corporate-level decision to improve production labor performance.

These organizations are in highly competitive global industries with very low margins; this has driven them to explore and deploy the production labor sourcing model. They have managed to reduce overall unit costs below an alternative off-shore program while maintaining complete oversight of product quality. By deploying this strategy, they have

keep jobs in the United States and have increased quality, reduced costs, improved production yields and streamlined work flow.

Conversely, the skilled workers suffer from reduced attention to their issues including production quality, streamlining and product enhancement. One skilled worker commented, "I had a major production issue, but my manager was too busy covering no-shows, which stopped the shift".

Unfortunately, one of the major problems associated with supply chain labor management is that many executives have old views of how labor should work. The idea of having an external labor force in a facility runs contrary to many executives' current thinking. For instance, one provider we met with noted that "we only want full-time people in our DC's. Otherwise, they are just not part of our company culture!" Although companies often claim that "people are our most important asset", apparently this does not apply to temporary labor. One executive we interviewed noted that many warehouse managers he speaks with view temporary labors as a lower class of individual, incapable of performing any tasks that were deemed important, and who in many cases were the dregs of society and should be treated as such in the workplace.

This vision is unfortunately not compatible with the current realities of the marketplace, which is moving towards a mass-customized environment. Many executives want a culturally aligned workforce, yet are reluctant to invest in the full-time benefits associated with this workforce, which incurs additional fixed operating cost. Is it therefore possible to have a culturally-aligned workforce that is variable cost in nature, that can vary with demand and seasonality? How does one go about designing such a solution?

A temporary workforce is clearly better aligned to this mode, but appears to be misaligned with current cultural norms of what a workforce should look like. We believe there is an evolution of labor management practices occurring, as described in the maturity model continuum shown below. We illustrate this continuum with five case studies, representing divergent points in this evolution.

A Revolutionary Model of Labor in the Supply Chain

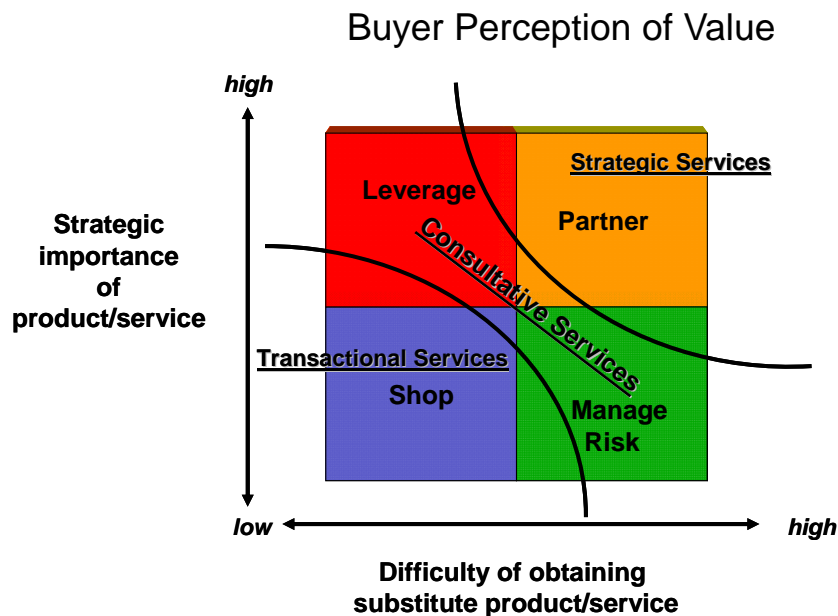


Figure 6 is a commonly applied purchasing portfolio matrix, first identified by Kraljic (1977) and applied for any type of strategic sourcing project. Firms classify everything they purchase (raw materials, components, professional services, etc.) into these quadrants, and apply relationship management, e-sourcing, reverse auctions, and tendering to different categories based on the classification of the category into a quadrant of the matrix. The success of these strategies are often negotiated via contracts with specific criteria, statements of work, service level agreements, and other measures for performance. Unfortunately, this approach has not been applied for the most part with temporary labor. Why?

As shown in Figure 6 below, temporary labor is most often characterized as relatively easy to obtain and unimportant as a strategic resource – putting it in the lower left corner of this matrix. This is how the majority of distribution managers view temporary labor – as an outsourced service that can be shopped around based on price. However, the requirements for mass customization and on-demand labor has pushed temporary labor up the strategic importance continuum, towards the Leverage category. Concurrently, the shortage of temporary labor, coupled with the problems associated with the previously mentioned challenges of high turnover and lack of dependable supply is also pushing labor to the right on the matrix to the “Manage Risk” quadrant, as it becomes increasingly difficult to obtain the required quality and capability of people. As such, temporary labor is beginning to be moved up the matrix diagonally towards the “Strategic” quadrant. What are some of the characteristics of firms who have recognized this event in the marketplace? What

management innovations are being applied to manage suppliers of temporary labor as this strategic transformation unfolds?

We sought to answer this question through a series of interviews with distribution managers at several different warehouse and distribution sites. These sites were then classified into the labor management maturity model shown below, and the characteristics of each site described in a brief case study.



Responses and Labor Strategies

Advanced Labor Sourcing Strategies

Ad Hoc 80%	<ul style="list-style-type: none"> ▪ No well-defined process for labor management ▪ No basis for reviewing and comparing actual versus plan. ▪ Labor strategy based on lowest per hour cost as needed ▪ Low price bid used to award any new business
Defined 10%	<ul style="list-style-type: none"> ▪ Processes for forecasting labor requirements have been defined and documented ▪ Metrics for measuring productivity improvements established ▪ Service level agreements with key Production Labor Suppliers are established– including issues such as fulfillment cycle time, quality etc.
Managed 5%	<ul style="list-style-type: none"> ▪ Significant involvement of industrial engineering during planning and design phase of labor lines ▪ Common measurement metrics for all business units are implemented to develop strategies for labor resource allocation and planning ▪ Definition of in-sourcing, out-sourcing or collaboration operations based on requirements analysis and total cost of ownership ▪ Metrics for Service agreements are defined, documented and tracked using piece rate improvements and total delivered cost.
Leveraged 3%	<ul style="list-style-type: none"> ▪ Early labor sourcing pilots drive continuous improvement and on-going database development. ▪ Frequent informal meetings are held with industrial engineering to modify/upgrade labor requirements ▪ Strategic partnerships with labor suppliers defined to synchronize planning and monitor service level agreements in real time. ▪ Suppliers are interactive in helping define service level agreements. ▪ Standardized language, evaluation criteria, reporting formats and processes to normalize individual managers' different personality styles and forecasting outlook biases ▪ Process embodies cross-functional linkage through group performance rewards, overlapping responsibilities, integrated planning procedures and facility layout.
Optimized 2%	<ul style="list-style-type: none"> ▪ Demand and supply information from suppliers and customers is shared & used to synchronize production labor sourcing requirements ▪ Regularly review performance-to-forecast data to fine-tune resource allocation decisions and the resource allocation system. ▪ Continuous improvement driven measures on resource planning workload and HR characteristics. PLS is an established strategic partner.

Level 1 – Ad Hoc

Most firms (about 80% in our estimation) fall into the category of Ad Hoc – that is, they have no well-defined strategic sourcing process for labor management, and typically have few performance measures in place other than price paid per labor hour. As such, there is no basis for comparing cost versus outcomes, and temporary labor is often sourced via a low price per labor hour tender. Providers are often switched on a regular basis, leading to a lack of any type of strategic relationship between the enterprise and the provider of temporary labor.

Several of the firms we met with fell into this category. However, Firm A best represents the typical approach in the Ad Hoc category.

CASE STUDY A – MANUFACTURER OF APPLIANCES

Firm A manufactures appliances for distribution across North America to large retailers, and employs approximately 900 employees of which approximately 150 (15%) are temporary. The plant manager noted that he had had problems with temporary turnover in the past, but “didn’t know why”. The firm had sought to bring in temporary labor to drive cost savings. They have been under significant pressure to shut down the facility and move the entire operation to China, which had already been the fate of several other US-based facilities. Temporary labor was seen as a means to keep facility labor costs down, and avoid the same fate. The manager noted that “If we could do it as cheap outside as inside and with less workforce, the facility could become less attractive for offshoring.”

The plant had originally outsourced labor to a local county-funded resource which employed temporary non-handicapped workers. These individuals were viewed with some disdain – the manager noted that “they seem to have a lot of drug problems and mental problems, and have a hard time showing up for work. This decision was made primarily on the basis of lowest labor price per hour, and the workers began on semi-automated assembly of sump pump units. They then moved on to motor assemblies, and “did well for two to three years – but then their quality got really bad over time, and they went up on price.” Unfortunately, the manager recognized that bringing in-house labor was not economical at this point, even though the outsourced labor price was as much as the in-house price. Further, the motor assembly parts had to be shipped to a nearby town where the assembly took place, and then shipped back for installation into the final units. Assemblies were staged into trailers, and the supplier maintained the transportation of assemblies to their facility, and charged this back to the plant. They would then bring back the motor assemblies, which also required a higher inventory to cover any conceivable increase in demand, as well as transportation difficulties. Although the manager tried to keep inventory down to two to three days of motor assemblies, this was a large area of the facility for storage, and additional costs were going to be incurred with the labor. This led the manager to explore other options. “My initial thinking was that if we could convert the space used to store our motors, we could use the same space to assemble them, reduce inventory, and reduce shipping costs.”

The firm began by sharing prior information on what the previous provider had worked on, including setups and processes. They informed the provider that they would furnish the work area and equipment, and were quoted an assembly price that was lower than the prior supplier.

The new supplier provided an assembly price that was lower than the prior supplier of temporary services. Combined with the inventory and transportation savings, this led to a breakeven situation for the project.

Nevertheless, the manager in charge displayed little loyalty to this supplier, and viewed them as a commodity like any others. He noted that he had several other temporary labor providers in the plant as well to maintain a competitive edge. He also complained that “they have the same problems we do with turnover”, and that “we just want to make sure they are responsible for their own inefficiencies.”

Regarding the future of the supplier, the manager noted that “it will depend on their long-term success of pulling in temporary employees better than we can. I expected to see a greater percentage of Hispanic workforce than I see out there. The other supplier had more than half of their workforce Hispanic. But our current supplier is using an incentive plan, so maybe that will make a difference. Assuming they get to that point where they are as productive (320 units per hour with 4.5 people), they will be kept on.”

Key attributes of note associated with this case include the following:

- Temporary labor suppliers are viewed as a commodity that are easily replaceable
- The sourcing decision is based primarily on price per hour
- There is an arms-length relationship
- Temporary laborers are viewed as distinct from the plant facility, and viewed as a lower class of individual than full-time workers
- Labor is viewed as a stop-gap measure to deal with the outsourcing threat.
- Efforts to control total manufacturing costs are not particularly effective.

Level 2 - Defined

A few organizations have begun to recognize that labor is an important component to total supply chain costs. Executives at these organizations often view temporary labor as not only a means to reduce cost, but to drive strategic change into the facility and the organization. Firms in this category begin to view labor as a strategic resource, which needs to be forecasted, defined, and documented. Further, processes for measuring productivity and driving labor productivity improvements are employed, with specific service labor agreements established with production labor suppliers. These firms are breaking through one of the fundamental barriers associated with implementing production labor sourcing: the fear of change. The following case study illustrates how one firm recently went through this change process and explored this new approach.

CASE STUDY B – APPLIANCE PACKAGING AND DISTRIBUTION FACILITY

This enterprise has experienced significant outsourcing of other existing US-based facilities to Mexico and China. However, some of the product (e.g. refrigerators and dishwashers) are produced domestically, due to the high shipping costs of shipping these products. This particularly facility was located in the Eastern US where orders are received online, as well as directly from consumers via website. Product is also shipped directly to service companies for service components, requiring a good deal of customized packaging and shipping of products from the centralized warehouse. An order management system works in conjunction with the Warehouse Management

System and transferred to the pick and pack line, which is RF equipped for putaway (inbound) as well as pick/pack/ship for outbound. What made this environment even more challenging was the customization requirement for outbound shipments, which included multiple forms of shipping, including small packaging shipping (single picks), LTL, and FTL – each with a separate packaging line.

The distribution manager, when he arrived, recognized that workflow and morale at the facility were in decline. He first sought to emphasize key metrics, including Safety (priority one), quality (right part, right box to right customer at the right time, Delivery performance, and cost. The manager emphasized that cost was the lowest priority – reasoning that if the first three elements were achieved, total cost would be reduced. A STOP audit program was instituted, whereby audits of performance which revealed quality problems from the previous day would stop the line until the root cause was determined.

After two years, the facility leader recognized that this was not enough. Something had to change, as increasing pressure to reduce facility operating costs continued to escalate. He decided to pursue the use of contract managed labor based on three key reasons.

First – it was an opportunity to introduce change. Associates were stuck in a cycle of fearing change, and yet were not motivated to do anything differently. The key here was to drive change and continuous improvement, yet do so without striking fear into the hearts of associates. As he noted, “I had been here six months and wasn’t getting through in terms of leadership with the people on the floor – so I had to shake it up! I made sure that during the process, NO ONE lost their job.” A new contract labor team for packaging operations was brought in, and the existing full-time and temp employees were re-deployed. The existing temps had opportunity to work with the new contract labor provider, and the full-time moved to other areas. Through natural attrition, several people left the facility, which led to a higher rate of contract labor in two months, yet no one had lost their jobs.

Ensuring that people recognized that there was indeed competition for the work can be a powerful message. This manager noted that “It got people thinking that it could happen again, and it broke up the contentment cycle. Some of them started to wonder, “How could they do it at a lower cost and make money? So they started to ask questions: Am I still relevant in what I am doing? Am I really doing my best to drive efficiency in our operations? In the end, I did NOT do it to lower overall production cost (even though savings were around \$50K on an annual basis initially on a \$20M spend). It was about getting people to understand the need to improve and do their jobs better than before!”

The second primary motivation for the move to contract labor was that it allowed the firm to tap into a labor market they could not get access to. The facility is located in a rural area, and the demographics in the area have created a real shortage of young

qualified labor. It is located in one of the biggest retirement communities in the country and while the elderly workforce is growing and housing costs are escalating, most of the workforce required for warehouse labor could not afford housing. The contract labor firm brought in specialized in working with a Hispanic workforce, and had dedicated line managers who spoke Spanish and were aligned with the cultural elements of this demographic. The facility manager notes that “This allowed us to tap in a labor market we could not get into. Prior to this time, there was a company policy that to work in our environment, one had to speak and write in English. In a limited workforce pool environment, this created significant problems in terms of recruiting, hiring, and training. Working with a contract labor management firm that could tap into an untouched labor pool was a significant advantage in terms of controlling costs and managing a semi-skilled workforce.

The third biggest reason for the change was a unique one that only a few contract labor providers are capable of delivering. Rather than charging the client by the hour for a workforce, the client pays on a per piece basis. That is, ***the supplier charges a fixed variable rate for labor based on a per unit production output, rather than on hourly labor rates as an input.*** This was a radically different way of looking at this resource. The facility manager noted that “This opened up a different avenue to a problem that would not go away. Our organization focuses on containing headcount, so we can’t add people without a huge amount of red tape and justification, and are still unlikely to be able to hire. With this approach, we could take full-time people, move to other areas, displace existing temporary employees who did not provide the same level of efficiency and quality and quality, and replace these resources with a fixed variable known cost solution. This allowed us to reduce our reliance on temporary resources from 35% to 15%) that tend to be less reliable, with higher turnover and more safety incident. The freed-up working capital allowed us to do projects that drove in additional cost savings, especially in areas where labor is driving kitting or light assembly operations. For example, we took an assembly operation with seven plastic and electrical components, and brought it in-house from an outsourced supplier at a much lower cost. These projects became a permanent part of our reduced operational cost structure.

It should be noted that the transition to an in-house contract labor solution was NOT without pain! Several challenges emerged, including the following:

- There is some tribal knowledge regarding distribution and assembly processes that is not written down. To bridge the transition, permanent people worked alongside the contract workforce for the first full week of operation, even though there was a language barrier. They were able to pick up the basics.
- The language barrier was a challenge. There were no work instructions in Spanish, and the dialogue between fulltime and contract labor hindered sharing of knowledge and understanding. In the future, it would be important to fully translate instructions prior to implementation.
- Cultural issues were a problem. Bringing in a mass of people, and getting them to understand the corporate culture is a struggle. In doing so, they inherited all of

the problems that already existed in the facility, and didn't know how to fix things when they went wrong. Knowing who to call when there is a problem is a big issue.

- The supplier underestimated the complexity of what was being done by the full-time team. They thought they understood what was being done through observation, but there were many details that were missed, and which they learned about much later after problems arose.

That being said, in the end the company was able to show more than \$10 per unit savings to bring it in house, and shared 15% with the supplier who drove these innovations. And this was accomplished without the justification from Corporate!

Several important points emerge from this case.

- The firm began by viewing labor as a strategic resource, and drove the strategy around creating change, tapping into an as-yet unutilized labor pool, and moving contract labor from a variable input cost, into a fixed variable output cost.
- The change was done with no major adjustments to the existing labor force. Instead, existing in-house labor was moved to areas of the firm that were higher-value added, and which interfaced directly with customers (e.g. receiving, picking, stocking, and shipping which require facility and product-specific understanding). Contract labor was brought into lower-skilled areas such as packaging, testing, and assembly.
- Change was managed through sharing of tribal knowledge, and assurances to the full-time workforce that their jobs were not going to be jeopardized.
- Specific performance measures and service level agreements were established to drive the initiative, with problem-solving and joint issue resolution occurring.
- Information sharing between the parties ensured that an open atmosphere occurred to create relational capital, and integrate the new workforce in a spirit of collaboration.

While this transition was by no means easy, it illustrates the importance of being willing to accept a new way of managing a facility, and the importance of instilling a spirit of continuous improvement into a domestic distribution facility. This level of change is important if firms are to springboard to the next level of labor management maturity.

Levels 3 and 4 – Leveraged to Managed

As shown in Figure X, we believe that 90% of the firms in today's US market are still in levels 1 and 2 of the maturity grid. That is, they are still viewing temporary labor as a non-skilled necessity, or are in the early stages of experimenting with piece price labor management. However, we did encounter a few select firms who are beginning to drive the model forward, with incredible results. These firms are beginning to truly move the relationship with contract labor providers to the Strategic quadrant of the sourcing

matrix, as they begin to truly collaborate, drive service innovation, and explore new opportunities for labor productivity. While some of the key elements shown in Level 2 (piece price costing, transfer of knowledge, etc.) are present, these firms are more willing to explore even deeper levels of technical exchange and relational capital creation, through formation of true partnerships with these suppliers of contract labor. Examples of how these firms have done so are discussed in the next two cases.

CASE STUDY C – ASSEMBLY FACILITY

This company is a third party end to end supply chain provider, of assembled electronic products (e.g. jump drives, flash memory packages, camera media cards, and stick memory). The firm brings in product from Asia, and then procures and sourcing packaging and materials via an MRP system, and then conducts customized assembly, packaging, and shipping for large software clients. Sourced electronic components arrive from Asia, and are packaged for shipping in the facility.. Normally the big peak is October, November, December. These products are primarily for clients using these products for sales promotions activities, with branded logos, etc. The company grew at an exponential rate, and had struggled to keep up with demand, which tended to come in large waves with little warning, and was just as likely to drop off suddenly during low seasons.

The facility leader we interviewed noted that “We landed a very large account and we thought we would have a 90 day ramp-up. But after we signed the documents, they changed it and told us to be up in six weeks! So we immediately contacted this contract labor provider, who was instrumental in working with us on finding the people. They have an ample engineering support group, who worked to lay out the design, and determine the most efficient process. There was a capability requirement for six different production lines, each with eighteen to twenty-two people. When we hit our peak, we were operating three shifts 24/7 – which is a lot of people! So the biggest challenge was getting these workers acclimated to what we do, and in a very short time. We also knew that there was a second phase to the project that wasn’t support to start for several months, and which instead was moved up to 30 days after we began phase 1!

The facility leader describes the approach that they took to considering contract labor, and the approach used. He notes that “We were aware of models like this, and had used one five or six years ago on some work. We were looking at taking on a client that had a substantial amount of very manual assembly type work. This work was very repetitive, which was ideally suited to a piece rate pricing model. We worked with a provider on a very small project, and the opportunity arose to engage with the provider on a much more integrated basis.” The executive team decided to turn over 90% of the manual assembly work to a contract labor provider. This decision was made based on two factors:

- 1) Manual assembly was not a core competence, and the provider could provide the workforce at a much more economical cost. The provider came in with knowledge of their people, how to design the process, and how to establish productivity standards leading to a piece rate. In the end, the provider started slow, but eventually 90% of the manual assembly work was turned over them. The executive team recognized that were not structured nor did they have the ability to manage a workforce and pay them at a piece rate. As the executive we spoke with noted, *“It is their people, their processes, and their standards that differentiated them from the rest.”*
- 2) The other consideration was that the executive team recognized the cost differential required to build this competency– the ability to recruit, hire, ramp up and manage the workforce. Given the highly seasonal nature and fast buildup of demand in a short period, as many as 500 people were needed on sudden notice for assembly and packaging work. By bringing in specialists who focused on hiring, recruiting, and training this workforce, they removed the burden from the management team. we may need 500 people. They have done a very good job of that – and have taken the burden away from us. I would say those two factors – the pure cost efficiencies, and we have done some benchmarking with them – and some alignment was required. But we believe we are getting a fair rate now. For them to be able to manage, recruit, and train is a huge benefit.

There were of course challenges along the way. The facility employed quite a few temps already, with about a 300 full-time workforce in jobs that are more complex. These jobs have to do with equipment operation, fulfillment, reading documents, or using scanners. On the other hand, the new contract labor workforce was primarily Hispanic, and the majority do NOT speak or read English, so it was important to limit their work to repetitive processes. The provider also had to find appropriate bi-lingual supervisory support for the operation. In the end, the facility peaked at 500 contract workers, with another 400 full-time workers – a large facility!

There were also challenges in establishing a piece rate cost that was agreeable to both sides. Initially, the emphasis was simply on getting up and running, and there was little due diligence on ascertaining costs. The facility leader emphasizes that “I certainly do NOT recommend starting up like we did, but we didn’t have a choice! As such, when things slowed down, and we got our Industrial Engineers involved, we did find some disconnects, which were all resolved in the end.” There were also some personnel issues that arose, with understandably some “pushback” from the firm’s own full-time employees. There was a perception that “they had their work rules, which weren’t our work rules, and we had to get on a common page with what those were.” The executives noted that *“When you bring in low cost labor element, there is pushback and criticism by the rest of the workforce. It took awhile to get that resolved – but now it is not even an issue.”*

CASE STUDY D – MANUFACTURING AND PACKAGING FACILITY

This manufacturing plant in the Southeast produces consumer healthcare products in a centralized manufacturing facility, and ships all over the world. A new manufacturing vice president arrived, and quickly recognized that portions of the plant were poorly managed, poorly controlled, and in disarray. He noted that “We had a lot of production being manually packed out, but it was a mess. We were using 90 people in the operation, 30 of whom were our own employees, and 60 temps. This area had evolved into becoming the dumping ground for those who couldn’t cut it. I identified it as a place we needed to improve, and my HR group referred me to this provider of contract labor.”

The executive had some prior experience with contract labor. “I had run a plant at L’oreal, which was a similar operation in New Jersey, and we had gotten really good at working with contract labor. Our management team initially didn’t want a third party outside contractor, for fear of losing visibility, losing control over quality, as well as possible pilferage, service, and support issues. However, the contract labor provider came in with a very compelling business case, which really impressed me and the management team. They brought in Industrial Engineers who had studied the process, and had broken it down into a Chinese menu showing how many touches were required, and the cost per touch. The menu was driven by the level of WIP. I had already done my own benchmarking analysis on what it should cost us to run it ourselves – and they came in with a price that was 12% lower in cost and 20% higher in throughput. They also established an incentive system – where if people beat the benchmark, they received an incentive.

Next, we set up a project team to work with them on this, involving weekly meetings, project managers, industrial engineers, training of supervisors, etc. Again, they were better at bringing in the project on-time than we were, and came in 14% lower than our actual. It was easy for them to beat it.

The big thing I liked is how they managed the transition. They brought in their people, observed them, validated the findings, and then hired additional people. But the big issue for us was – what to do with displaced workers? I liked the idea that we kept the contract labor workers in-house, in front of us, and our people were able to check the standards, the quality, and the cycle time. Project implementation involved weekly meetings, identification of issues, price estimating, getting standards setup, aligning paperwork and scheduling with our systems, etc. The first month they did an actual labor expended analysis, and in the second month, confirmed the piece price. It was a 3 month process, with on-going meetings with the VP of Operations. They cut through all the BS, and were always on the up and up.

The biggest mistake we made was the WE screwed up the transition. The announcement for displacement of workers came out suddenly from our HR group. Initially, he had set a timeline to tell workers of the change one month ahead of time, noting that workers could apply to the new positions if they wanted. That in fact was

NEVER discussed with our employees before the announcement was made! You can imagine the reaction.

Another problem was that the new contract labor provider came in and started hiring people from the other temp agencies that were already in the facility. They basically came into our facility to interview people, and we weren't set up for this, and no one was given any advance warning. These agencies became very upset, and threatened to sue. They really weren't given enough notification, they lost good people, and they were right in accusing us of promoting this. Normally in such situations we give them a fee. So the lesson learned here is to watch out for how you handle the incumbent contract labor provider and the new people coming in.

That being said, the rest of the transition occurred very smoothly. When they took over the new operation, they began tracking their production per day and per line, and used it as a benchmark for other operations in the facility. They came back in one of our weekly meetings, and told us they could do a better job if they relayed out the material flow to the line to stage work orders. I told them to go work it out, and sure enough, they leaned out the line, and work orders starting being closed out earlier! My big concern going into this was quality. I told them that if they messed up a product batch, they were responsible for reworking it and they own the costs of doing so. If however, we give them an incorrect Bill of Materials or defective inputs, we pay for it. In every situation, when there have been issues, they handled it professionally and bore the costs.

Today we have a manager who leads the contract labor team on the site. This manager has a crew working for her, and their job is to pick material and put it in staging. They then take the WIP, they make the cake (palletize) and we ship it. It is a very smooth flow. We have also asked them to take a look at our Distribution Center. We are thinking of moving the DC to a new site in August, and making it a fulfillment center, and then perhaps have them take over the pack out process at that facility. I just had lunch with my director of purchasing, and we are going to open it up and do a 1 year review of the business. The contract labor provider has some ideas that I am willing to listen to. In the end, I am willing to invest in capital, because for every dime you save, I will give you 2.5 cents back – and I will invest the capital. They have made some proposals we want to listen to.

What is funny about it, is that the contract labor operation is also the cleanest area on the entire production floor! These people literally save me money. They come in at 6 AM and leave at 2:30, they never complain, are glad for the work, and do a great job. When we brought this team in, we still had 20 to 25 people that were displaced that we tried to move into other areas of the business. But when we tried to move them into other areas like filling, the managers in these areas told me that 'we don't want those people!' And then it hit me – these 22 people were essentially non productive, and we never did anything about their tardiness, work performance, or missing days! They should have been released long ago! In effect, bringing in a third party forced us to

discover and recognize a number of technical and managerial problems in our facility. If people have the will, we can help them with the skill.

I believe that this is a revolutionary new model for labor. It is important to note that this is NOT contract labor. Contract labor are just temp agencies. This group is a contract supplier who just happens to be using the lines in my building. There is a big difference. People who just supply labor have no accountability for what goes out the door. This supplier, on the other hand, provides a turnkey solution to provide my product made at a fixed price, using a one-off labor and market cost. This model is critical for American industry, and there is a need for this model. Labor management is not a core competence for firms, but these people are very good at it. In our line of business, we are really good at formulating and filling product. WE are NOT good at what we call the “end of line function” with labor.

It is not a big issue for us – not a big culture clash.

There is a need in industry for firms’ whose core competence is NOT managing non-skilled labor. We are really good at formulating and filling product. We are not good yet at what we call the end of line function with labor. In the past, the philosophy that we could do it all internally has cost us a lot of money. By finding someone who was really good at this process, we solved a short-term problem, and in the longer term, could extend it even further. Packing out product doesn’t differentiate me from my competition – the product differentiates my supply chain from those of others. We need to remember that as we think about howw we manage contract labor providers.

Several important points emerge from this case.

- The firm recognized the importance of labor as a strategic resource from the outset, and also recognized that managing a contract labor force was not a critical differentiator, but an enabler for supply chain performance.
- The management team recognized that contract labor management was NOT a core competency, and approached the sourcing decision with the view to building a performance-driven value creation model, with targeted goals for improvement and performance-based logistics outcomes.
- The transition was managed through targeted meetings between industrial engineers and the executive team. Agreements with labor suppliers included specific contingencies for synchronization of planning and on-going monitoring of service level agreements.
- In overcoming language differences, targeted areas of the facility were identified to emphasize repetitive work environments, reporting formats, and training instructions and coaching.
- The supplier was instrumental in establishing service level performance based on the process, and identified continuous improvement opportunities to improve productivity, throughput, and cost savings.
- Performance incentives were used to drive employee improvement and mutual benefit for all parties.

- Headcount was reduced in some cases, but the transition to merge the temporary and full-time work force can be driven by improved communication with HR and the workforce.
- The contract labor provider was viewed as a strategic partner to the business, and not simply as a one-off vendor that could be switched. Building relationship capital through information sharing and an atmosphere of directly addressing concerns and issues was a critical foundation for the relationship.

The highest level of labor management maturity requires that firms and suppliers be prepared to go to the highest level of seamless integration, as discussed in the next section.

Levels 5 – Optimized

To our knowledge, only a handful of firms have evolved to the highest levels of labor management maturity. The ability to break through the glass ceiling of Levels 3 and 4 is often hindered by changes in management teams, lack of clarity on goals, lack of sustainability for improvement, and in other cases, simply a lack of volition to drive change. Nevertheless, firms who break through to this level do so on the basis that improvement is a never-ending process, and that the road never ends. To that end, these firms have pursued improvement as a management philosophy that spans all of their supply chain partners, including labor management suppliers. The following case provides an example of a firm who understands this requirement, and is continuing to challenge the status quo in pursuit of excellence.

CASE E – INTERNATIONAL DISTRIBUTION CENTER

This international distribution center of industrial tools is close to one million square feet, up from 330,000 square feet in 2004. Industrial tools and related products come into the facility, and are shipped to all international distribution centers and customers, including North and South America, Europe, Asia, and England.

The facility typically receives about 14 to 20 containers coming from various joint ventures and wholly owned sites in Asia as well as non-affiliated vendors. A number of branded lines from Asia and other locations are shipped here. Because a good amount of the content are from Low Cost Countries, container-loads have driven up inventory and the floor is often loaded to capacity.

Traditionally, contract labor has been applied to unload and shrinkwrap/ palletize inbound shipments. Full-time employees then do the receiving, verification, paperwork reconciliation of quantity shipped, and apply a pallet identifier. Thus, there is a blended team of contract and full-time people working together on the same processes. Inventory turns are currently at 5 per year, and there is an aggressive inventory management program driven by the investment community to increase this to 10 by 2010.

Customer orders come in through a central SAP system and drop down into the DC's. Some of these are based on historical fill rates from large retailers' EDI orders, while others come in from other sources through the system. There is increasing customization of packaging requirements, and the DC must ship to different criteria. For instance, the commercial hardware business is tied to some electrician services, and the DC has to ship same day for these orders. Another set of orders for an industrial tool line is for companies that build and run oil rigs and airlines, and they may require a 300 pound torque wrench right away! For the remainder of the customer base, the company has committed to shipping in 48 hours, unless the retailer notes other specific date requirements. Ripple effects in these retailers' supply chains cause a lot of variation and bullwhip effect. For example, a large retailer may have a DC that serves 100 stores – and if they ship via a transfer facility, they may give us an order to hold and ship on a specific day. The DC may also use the customers' carriers – and they may wait until the last minute to assign carriers.

Key productivity measures at this facility includes number of lines shipped per hour, lines picked, pallets processed, processed loaded, dollars shipped, and lines shipped. This company's culture focuses on outcome measures, and given that the sortation system was already very automated, the primary source for on-going cost savings was labor and benefits (65% of DC operating costs). The executive team recognized that in order to drive cost savings, they needed to impact labor cost, whether it involved productivity improvements or changing processes.

With an hourly workforce of 165 workers and an temporary workforce of the same size, the company recognized they needed to re-think their temporary strategy. Their experience with other temporary agencies was that people were brought in for short-term projects, with a trial period before they were hired into a full-time role. The original DC manager began to talk with a contract labor provider, explored the concept, and liked what they say. There were specific levels of output productivity, as well as minimum tolerances for mis-pick errors. If the line went outside of these ranges, they would need to pay the facility for these errors with a multiplier. Although penalties and quality issues were structured, they only rarely arose.

The program was started in 2000 and 2001 initially to help with the peaks. The DC's picking operations work off an RF system, and it takes awhile to train people on how to use it and how to become efficient. Due to the range of different order types handled by the DC, multiple forms of picking are utilized: pick to belt, pick to light, label pick to pallet, label pick to belt, cluster pick to pallet, cluster pick to belt, way full pallet, and offline picks. The management team had to train the contract labor workforce in all those different pick types! It can take 2 months to get them people to speed and get them to a productivity level that makes sense. One executive noted that "We don't want to lose people we invested time in!"

The transition was of course difficult. Language barriers led initially to high turnover with the on-site supervisors and workforce team – and in the initial startup 7 people left.

A lot of the communication barriers involved communicating exactly what needed to be done. The in-house supervisors were very frustrated at the time, but the management team just kept emphasizing that communication was key.

The facility management team reflected on what has occurred since 2004. *“In my mind it seemed to be working out well. Since then, the cost structure and operating budgets have become the issue. The key objective is the combination of handling the peaks and operating efficiently as possible. Contract labor is cheaper since we don’t pay any benefits, and it has done so well that it is not build into our budget! We could not operate this building with all full-time people at the moment.”*

Another manager on the team also expressed his views: *“The original idea was to manage peaks but the focus is now on becoming more cost efficient. We would classify most of the people onsite as ‘temporary permanents’. They are not a true temp, as we don’t expect to lay them off! We may send a few home earlier on slow days, but otherwise they are here every day! The transition occurred slowly. Initially, we came at it from a productivity standpoint. We started with the inbound dock, then migrated the contract workforce into a picking process. With the help and advice of their engineering support, we learned to convert the hourly workforce to an incentive basis, whereby they were now paid by how many cartons they unloaded in the inbound area. In outbound, they are measured by how many pallets they pick, how many cartons they stack, all of which are measured by our WMS. In this area, we create work groups and log how many items are logged into outbound delivery chutes, and then split the incentives and pay them as a team. Pickers get paid based on how many reaches they make. The last area where we still have hourly people that are being converted are in the packing station, where we have a combination of inhouse and contract people doing less than full case picks into dunnage. We are now incentivizing them based on how many cartons they process. One of the bottlenecks in this area was that the pickers were getting paid more than these people, which affecting money and morale. Moving them to incentive has rectified that situation. However, picking is still the stronghold for contract workers – 60% of picking and order processing is now done by the temporary workforce.”*

The biggest advantage is the flexibility of the team. “I can tell them how many, when we need them, and it becomes easier to run both shifts and concentrate on doing what we need. We can tell them when we have a big promo coming up and that we will need 10 people in here –and they deliver. But then they become part of a permanent workforce on another level. We cross-train them, so they can move from picking to inbound to outbound. If inbound is slammed on a given day, we can pull them from another area send them over.

The blending of in-house and contract workers is now a given. There may be 30 inhouse associates and 10 contract workers all in the same area, and it seems to be working well. The warehouse is driven by RF picking labels applied to products, which are then used to scan and putaway on inbound. Picking labels are printed by cluster or

3rd level picks. Pickers use an RF unit and handheld, and are provided information on which location to use, how much to pick, they scan the identifier labels, and then slap them on the conveyor belt which runs to outbound. The picking label also serves as the shipping labor. The outbound workers build the pallet, stake it off, and put it into a truck. In this section, there was a lot of training required on safety, in both English and Spanish. Many of the contract labor people are Spanish speaking, so there are also a lot of visuals and pictures of good pallets vs. bad pallets, etc. The contract labor provider also provides bi-lingual supervisors on the site – thus, temps do NOT take direction from the full-time supervisors, but from their own company supervisors.

The strategy has paid off for this company. The manager reflects on the benefits: “We saw a big spike in our business, as certain times of the year (fall and summer) are peak seasons. In particular, October, November, and Black Friday (day after Thanksgiving) become very busy, as the products are often used in sets as a gift. Couple that with the hurricane seasons (Katrina in 2006) with a massive set of hurricane orders for crowbars, ripping bars, and hammers, and keeping up with product to get to stores became a massive challenge. During all of this period, the contract labor force came through with on-time delivery performance.

There are always challenges to such an approach. The executive we met with noted that “as we brought in more contract workers, we continue to have to explain to our workforce why we use them. And we take the time to explain that they are part of our business and our cost structure. We have done a good job at making sure we do what we say we will do. We are a non-union facility, and we need to keep our associates happy. They trust us and we treat them as we would expect them to treat us. We continue to tell them that contract workers will NOT replace a full-time person. We have proven this by NOT laying off or terminating a single in-house person. If one voluntarily quits or leaves, we may do so only because it gives us an opportunity to see what they will be like.

The success of the approach has increased business for the facility. In 2005, a DC was closed in Atlanta, and integrated into this facility. Workers were on overtime 32 out of 58 Saturdays per year in 2005, so there have been no complaints about how much work the contact workforce was doing. Last year, there was a 20% reduction in overtime, to only 20 Saturdays per year. In 2007, it was down to 2 Saturdays all year. We are now starting to hear people complain about why they aren’t working more overtime. One of the reasons for this, in my opinion, is that when people work so much overtime, they get used to it. When they go back to 40 hours, it is like a paycut! So this is a problem we will have to keep an eye on. The fact is, we are confident that we are more cost effective with this contract labor provider aligned with us. Their workers are younger, and seem to have more energy because they are incentivized and have a good work ethic. But the tradeoff is, because they are incentivized and energetic, they sometimes make more errors! So we can’t put them in critical areas where overpick or underpick errors can perpetuate themselves. Thus, we have to limit them to areas with low severity errors. Even when this happens, however, we recognized that this could be our

fault the way we present the products to them. Their engineering team is ALWAYS willing to provide support to ensure that we are successful.

There are some other problems as well. Sometimes equipment becomes damaged, but we do charge them back if it was due to carelessness. Housecleaning is a constant issue. We drive some of this behavior to "hurry up and get done", and that may create the perception that housekeep is not important. They build in time for housekeeping in their rates, so in some cases people don't realize they are being paid for cleanup. We have to remind them that every 3 months or so to avoid accidents and safety issues.

In the end, however, the benefits far outweighed the transition costs and the other problems that occur. *"We are seeing increased productivity – we moved from 8-10 containers per day with our in-house associates, and we are now almost double that (14-20 containers per day) with the contract workforce. We only have to give the people a picking target (13,000 lines per shift), and we don't tell them how many people they need, and their people have to find a way to split that volume, and are incentivized to improve. They turn out their low performers themselves, or manage them up. "*

At this point, the contract labor team is fully integrated into the facility. The executive team noted that they are not a permanent part of their cost structure. The facility leader notes that the challenges this facility is feeling are the same as many others, but they chose to look at the solution from a truly radical perspective. *" We are not unique – we have to do more with less. If the number of available associates drops or changes dramatically that would drive up our cost. If an immigration bill is passed and people are exported that will drive up our cost. We do experience some periods where landscaping and construction industry demands occur and some people leave because they can get paid more. Also, there have been rallies for immigrant rights in some of the cities. We worked with the contract labor team and the people, and emphasized that it was important that they come to work, and do what you need to do for your families and not jeopardize your jobs. They really feel like they are part of our team.*

From a DC manager point of view contract labor is now a part not just of our cost structure, but in fact for the cost structure of the entire distribution industry. The way we have done this is different though. When I talk to other distribution managers about our plants, it is like a lightbulb goes off when I mention productivity incentives. And a few of those facilities are now meeting with the same company. From a personnel standpoint, we are always aware that there will be some conflict between the full-time people and ANY other contract laborer. Do they follow the same rules (they don't know that). They also claim that "They are here to take our jobs". At the last all-hands meeting, five out of ten questions were around whether they were going to be replaced.

These are good people who come to work as contract labor. There are very restrictive background checks; not even a DUI is allowed! This disqualifies a lot of people, but they are still able to find those folks. They always have a pool of candidates where

there is a lot of competition from landscape and construction – but with adequate notice they have people in 24-48 hours. They are a tight group, and they have a network of people who work here, so they understand what is to be expected of them. We try to include them in or extracurricular activities, especially when we have a celebration for string of successes. We have set shipping records for the company and the facility every quarter: most lines, most lines shipped, most dollars shipped, etc. All the business groups want to show appreciation, so we will schedule a lunch and I will give out hats to the various teams. We put out a tent and have a barbeque, and we include them and they feel part of the team.

Some of the key elements associated with an optimized level of labor management maturity are that

- Demand and supply information from suppliers and customers is shared and used to synchronize production labor sourcing requirements
- Regular reviews of performance-to-forecast data occur to fine-tune resource allocation decisions and the resource allocation system.
- Continuous improvement driven measures on resource planning workload and HR characteristics.
- The Production Labor Supplier is an established strategic partner who meets with the top management team, and is apprised of customer-driven promotions and sales strategies.
- Flexibility and productivity are the primary value drivers, not cost.
- The team is integrated into the facility, and a social network between the contract labor team and the full-time associates is created to drive a blended workforce environment
- Comraderie and esprit-de-corp are improved through socialization and joint activities, to build a team-spirit and common purpose.

CONCLUSION: Supply chain sourcing strategies should extend to labor.

In this white paper, we have identified several key points for executives seeking to improve cost and productivity within their distribution facilities. As shown in the figure below, the current environment in distribution is moving from an old-world where a full-time workforce could work in facilities given relatively standardized product configurations, non-customized customer demand requirements, and simple pallet picking shipping and case picking were the norm. this is moving towards an environment with high demand uncertainty, severe cost pressure, customized product requirements, higher full-time labor costs and benefits, high turnover, extreme seasonality, customized shipping requirements, and loose pick and singles picking are becoming the norm. When faced by these challenges, companies are seeking to drive labor strategies to come with these challenges. Some of the key elements

to consider in building a contract labor distribution and manufacturing strategy involve the following lessons learned:

- Begin slowly, and spend time to study the process.
- Work with a supplier that has a strong industrial engineering team, who can build a process model, drive efficiency, and design a new process that will work with a contract labor workforce
- Work with the supplier to drive key metrics that align with the facility's strategic plan. Focus on productivity output, quality, and accuracy, but also build these service level agreements into incentive formats that will drive continuous improvement.
- Be prepared for a period of challenge during the transition. Work to communicate as much as possible with your existing workforce, and strive NOT to replace full-time workers with temporary workers.
- Work to build a common team spirit, and to integrate the contract labor workforce into the facility. Continue to drive improvement and cost savings through analysis, metrics, and weekly discussion with the supplier's management team, and solve problems as they arise.

We believe that this is a new revolution in the distribution industry, and that more firms will begin learning about this process in the near future.



Responses and Labor Strategies

A New World for Labor Management

OLD WORLD

- Reducing promotions to cut costs
- Full-time workforce
- Large standardized products with common packaging
- Higher inventory to meet on-time delivery
- Premium pricing for special orders
- Common demographics and national brands
- Brand recognition and pricing
- Pallet shipping and case picking



NEW WORLD

- Retailer demands customized promotions
- Increasing use of temps to manage highly season items
- Retailer-specific standards required
- Smaller shipments with more seasons, peaks, troughs
- Postponement and seasonal stocking
- Lower shelf inventory with frequent shipments
- Demographic category mgmt
- Private label branding
- Loose pick and singles picking

ⁱⁱ For an evaluation of the longer-term impacts of productivity growth on employment, see ILO: *World Employment Report 2004-05*, op. cit., pp. 6-7 and Ch. 2. ILO Report, Social and labour implications of the increased use of advanced retail technologies, 2006.

ⁱⁱⁱ Bureau of Labor Statistics, 2006.v

^{iv} MHIA Vision Summit, May 2007