



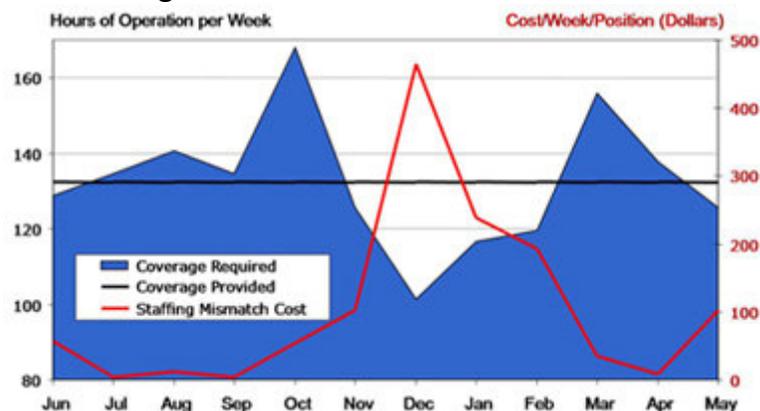
The Importance of Workforce Scheduling in a Demand Driven World

The goal of a demand-driven enterprise is to provide the highest level of customer service while managing cost to the enterprise. Although companies have invested in manufacturing systems and techniques to align production to customer demand, this goal cannot be realistically achieved without the synchronization of an available and qualified workforce with production demands. Properly designed, integrated and executed, a program of optimized workforce scheduling addresses these challenges and offers the opportunity to balance the multiple and often competing objectives in today's world of highly variable demand, complex work policies, lowest cost and short-cycle turnaround while ensuring that the right people are available at the right time to perform the right job.

Historically, and in spite of the drive in manufacturing toward ever leaner and more optimized processes, the approach to workforce scheduling has been based on planning for the use of a relatively constant level of employees supplemented by overtime and/or a contingent workforce. Missing from the equation has been coordinating the deployment of the workforce to expected levels of production, time-based customer service commitments, available manufacturing assets and other forces that cause variability in demand or capacity.

As a result, there is a structural mismatch in the way that employees are scheduled relative to the actual demand for their services at a point in time. Over a longer time horizon, a pattern such as the one illustrated below emerges (see Figure 1).

Figure 1: DEMAND COVERAGE CURVE



The impact of this disparity can be felt across many areas of the operation and can result in negative outcomes including:

- Idle production lines
- Missed or late shipments



- Increased turnover of employees
- Excessive and potentially unnecessary overtime
- Health and safety issues
- Violations of union agreements or other work policies

In the consumer packaged goods (CPG) sector, for example, this variability has become institutionalized due to the mass merchandisers and the trend, which is all but irreversible now, to push back inventory closer to the point of manufacture than the point of consumption. The emergence of “mass customization”, proliferation of custom packaging and demand for other value added services performed by the manufacturer requires that organizations react quickly and reliably in order to coordinate production and delivery with the demands of the end customer. Scheduling of the workforce becomes as critical an activity as on-time delivery of raw materials and availability of production & logistics resources in successful execution. Matching skills to tasks in the scheduling process becomes even more crucial in this world of customization and regulation.

An examination of the place that workforce scheduling holds within the enterprise reveals why it is an ideally positioned to enhance agility in a demand-driven enterprise (See Figure 2 below).



Figure 2: Positioning Workforce Scheduling Within the Enterprise



Optimized workforce scheduling supports the goals of a demand drive Enterprise while satisfying the requirements of:

- Adhering to Union rules or local work policies
- Providing a level of transparency, accountability and objectivity to work assignments and overtime equalization
- Insuring the accuracy of pay and job codes associated with scheduled work which is sent to Time & Attendance and payroll systems
- Supporting the development of meaningful workforce analytics and KPI's

In traditional approaches to workforce scheduling, employees have their “bid job” (or default job, pattern of days on/off and shift). The notion is that if they show up for work, this is the job they get for the day/week/month. Many employees, however, are cross qualified and would be available to move up, down or across to fill vacancies and avoid potential line shutdowns. By adding the dimension of demand to scheduling, these individuals can be placed in the most critical job where the demand at this point in time is most critical. All jobs are not of equal value to the business and manual or spreadsheet based systems are hard pressed to be cognizant of these hierarchies, permissions while adhering to the rules for compliance which govern these movements.

The paradigm shift in all this is not simply basing daily staffing assignments on who shows up and what job they typically perform. Rather, it is letting the desired results – production goals, order fulfillment commitments, etc. – drive all the way back to the staffing required to meet these goals and having a solution that can execute that strategy.

Thus, workforce scheduling sits squarely in the center between those predictive systems and those recording systems and is naturally the place where last minute reaction and adjustment can be optimally be performed.

When demand-driven and rules-based workforce solutions are successfully implemented, significant benefits accrue across all areas of the organization. Some are intuitive and others, not so obvious. Typically, 50-75% of the direct time spent developing schedules and reacting to schedule changes is eliminated. This is often enough to provide sufficient ROI to justify implementation of a workforce scheduling solution. The more significant financial and operational benefit is to be found in the alignment of expected results and resource utilization. Specifically, the flexibility afforded by scheduling to demand facilitates



- Fewer incidents of over or under scheduling of resources – no more “just in case” labor resources
- Increased utilization of cross-trained resources to perform work not only when but where it is needed
- Increased employee satisfaction due to greater transparency to the scheduling and overtime assignment process, enhanced ability to respect employee preferences, elimination of unnecessary “call-ins” which cause disruption of personal time and improved communication through the use of employee self-service
- Reduced dependence on select individuals who historically were the “keepers of the keys” to the arcane rules that governed scheduling and compliance
- Higher order fill rates and greater confidence in accepting orders with date certain commitments based on knowledge of available resources versus demand levels

Often relegated to the category of a clerical necessity, workforce scheduling should be seen in a very different light in the demand driven world of today’s manufacturing. Ultimately, there can be no lean manufacturing with fat and waste endemic to the workforce scheduling process. There can be no agility in the supply chain when scheduling of the workforce is applying the brakes to the engine of productivity.

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