

Major Pharmaceuticals Manufacturer

Taylor keeps schedule adherence healthy with far less stress
for schedule coordinators and plant supervisors

Taylor Scheduler has improved this pharmaceutical plant's solids production schedule adherence dramatically. Skilled planners and supervisors are now able to focus on their core competencies. Integration with the ERP system has also improved communications across the plant. In the uncertain world of regulated pharmaceutical production, this company has

Business Drivers

How do you keep to a schedule when every single incoming shipment of material and its associated documentation must go through regulated Quality Assurance and Quality Control processes? This is a question that pharmaceutical plants face every day. One major pharmaceuticals plant has used the Taylor scheduler to help address this issue.

Customer service is critical in the pharmaceuticals industry – whether serving retailers that need product on the shelf, or a demanding distribution channel. In the past, the company kept customer delivery high through quite a bit of hard work by number of people. “It was chaos: we managed change with e-mails, voice mails and people running around,” says the plant’s Business Process Management manager.

Scheduling for the solids production area of this plant is particularly challenging, since many different products run down the same line in small batches. Schedule coordinators needed to have a detailed knowledge of the process. These experts worked closely with the production supervisors to create schedules that the plant could actually fulfill.

In an environment of constant change, the schedule simply could not keep up. It took a full day to change the schedule, using an Excel spreadsheet. Part of the issue was that the Schedule Coordinators needed to communicate with plant floor Supervisors, Master planners and others. A major issue was that they simply did not have adequate tools to work on the schedule in a productive and flexible way.

This global pharmaceutical company has a long history and revenues in the billions of dollars, showing continued growth. This plant manufactures over-the-counter and ethical pharmaceuticals, as well as vitamins for export and for its native market.

“We were offering customers good service, but at the price that people were running around doing extra work to coordinate in the plant. We set out to streamline communication and improve collaboration among the planners.”

Business Process manager,
Major Pharmaceuticals plant

The Business Case

This facility undertook a plantwide initiative to improve all of its planning processes about three years ago. The project involved streamlining the whole array of scheduling and planning processes from long-term and capacity planning to Master scheduling to laboratory scheduling and detailed plant scheduling. The company also changed the

roles of Master Schedulers, Production Coordinators and Production Supervisors.

In short, this planning project involved reviewing and improving business processes, redefining roles and responsibilities, and finally at the end, adding software. The Taylor scheduler is a software tool that makes production coordinators more productive. The objective was not to save manpower, but rather to streamline communications and allow production coordinators to completely take control of the schedule and scheduling process.

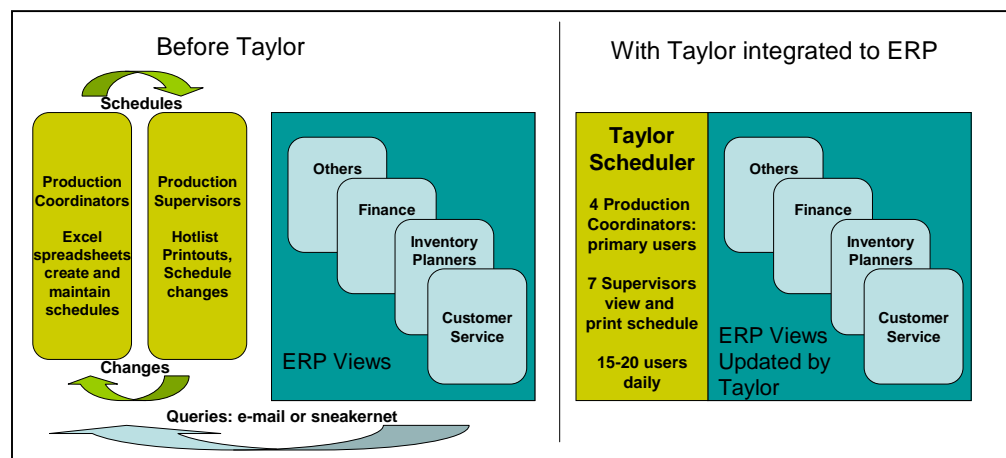
Prior to implementing the software, personnel in multiple roles each developed schedules to cover the same time period. Production supervisors played a major role in scheduling. Unfortunately, their goal to keep their people busy did not always result in schedules that met shipment plans and commitments. Further, QC “holds” on incoming materials created a need for frequent changes that the spreadsheet update process could not accommodate.

As a result, schedule adherence was only about 60%. What the plant actually produced at a given time did not match very well with what they had planned to do during that month. There was simply too much uncertainty and too many different people changing the schedule.

Schedule adherence was the one metric that truly drove the business case for scheduling software. Other problems they were hoping to solve included:

- ◆ Improving communications and schedule visibility across the plant
- ◆ Creating a single schedule used in both ERP and in plant operations
- ◆ Consolidating scheduling into the hands of the production coordinators
- ◆ Reducing dependence on a few expert coordinators to create viable schedules
- ◆ Improving the speed of rescheduling and reacting to change.

For example, with the schedule in Excel, when customer service needed to provide information on order status, they had to either e-mail a coordinator or supervisor or go out to the plant and ask the question. As exceptions occurred, Production Supervisors had to modify production in an ad hoc fashion, since changes took a day to input into the Excel spreadsheet.



Company management was not initially interested in investing in software. However, the project manager overseeing business process management, an APICS CPIM, realized that scheduling software integrated to ERP was the best path to achieve their goals. Once the

process and role changes had taken effect, a consultant helped make it clear to others that software would help solve the remaining problems.

Selecting & Implementing Taylor

As the plant wrapped up the process and organizational aspects of the planning re-vamp, an outside consultant helped persuade management that they needed software. Management had resisted partly because of the expense of many software products. At several hundred thousand dollars, the scheduling offered by J.D. Edwards, the plant's ERP provider, would have required corporate approval and made achieving payback very difficult.

The project manager and his team searched for alternatives at the APICS Exposition in any reasonable time frame. After a relatively easy evaluation process, Taylor's scheduler was selected for a few reasons:

- ♦ Reasonably low price, to allow financial justification;
- ♦ Features well beyond the basics that the team knew they wanted;
- ♦ Recommendation by the production director at another pharmaceutical company , who had chosen the Taylor product;
- ♦ A reference visit to the pharmaceutical plant using Taylor on a solids production line.

Implementation at the plant was methodical, to ensure success from the outset. Since there was no deadline, the team took about five months to implement the Taylor Scheduler. The major elements of the scheduler implementation project were as follows:

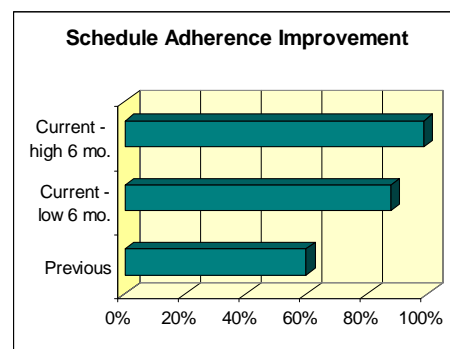
1. Train with the local Taylor distributor for two days.
2. Clean up the data from the J.D. Edwards ERP system to ensure they had a perfect bill of materials and a clean router for every product. This accurate core data allows the company to deliver accurate schedules based on ERP input.
3. Design the interface between J.D. Edwards and the Taylor scheduler. An IT person from the plant developed that interface in about two months.
4. Phase in the system with the Production Coordinators and, for about two months, running the Taylor system in parallel with the Excel spreadsheets.

By meticulously setting up the system and its integration, this company avoided technical problems later. By then taking their time with a slow parallel phase-in period, the end users gained confidence in the system. Thus, the entire team was sure the system was good before the schedule was dependent on the software. The Business Process manager says, "If you rush those types of tools, people will not believe the results. People need to trust the tool in order to achieve the results."

Performance Improvement Achieved

This pharmaceutical plant has achieved its goals with the Taylor scheduler. There is far less work and chaos involved in getting product out on schedule.

Schedule adherence is the major performance metric. The project manager reports that they have been above 80% for



nearly 2 years now. In the last year, this plant has achieved over 88% schedule adherence for six months and over 99% for the other six. While the software is not the entire reason, it is clearly a significant part of it and a part without which the 99% would not be achievable.

In addition, communication across the plant is greatly improved. The schedule generated by the Taylor software is the single schedule of record. It is visible not only to the production coordinators and planners, but to all users of the ERP system. This allows customer service to provide information on order status by viewing actual scheduled versus request date through their ERP screens.

Production supervisors are now freed up to do their primary work of supervising employees. They no longer have to print out the hot list every morning to understand which orders to rush, nor do they need to make their own adjustments to the schedule.

The Production Coordinators now own all responsibility for the schedules. They no longer struggle with supervisors' intervention. Nor do they need to re-key information into Excel for critical work centers. They can also collaborate more easily amongst themselves. Now, the 'hot list' or orders that take priority over the original schedule can simply be inserted rather than taking a full day to create a new schedule. If something is held up in the lab for QA or QC purposes, the schedule can also be adjusted quickly to accommodate those delays.

The same highly skilled Production Coordinators schedule the plant as before. It took years for these people to learn everything they know about the process. Their jobs are secure. However, this summer when one was out for an operation recently, a student managed to coordinate the schedule, albeit with much hard work.

Improving the speed to reschedule and react to change has allowed the plant to set up OTC, vitamin and pharmaceutical products on the same machines. Flexible, small batch production is now much easier to manage. And everyone has visibility to bottlenecks and request date and status.

ERP data is now accurate and reliable. There are no operations missing in routings or errors in the bill of materials. One of the benefits of a scheduling implementation that many people overlook is the correction and refinement of existing data.

Future of Taylor at this Major Pharmaceutical Company

So far, the Taylor scheduler has been used only in the solids production area. They would like to extend the use to the packaging lines as well as liquids. This would provide a single common system for all production scheduling. The consistency, speed of rescheduling, and ERP access would further improve communications and visibility.

Capacity planning is another area of interest. Right now the plant has six Master schedulers who work on MRP, MPS and rough cut capacity planning. They do all of this with infinite capacity models today, and while it works, capacity planning takes a great deal of time and effort. Taylor's software for this area would likely provide similar benefits to the detailed scheduling.

Meanwhile, the schedule adherence available by using Taylor is increasing certainty in this pharmaceutical manufacturer's uncertain world. They will continue to strive to be best in class and meet not only regulatory requirements, but the highest production standards as well.