

Highlights:

- ❖ Converting plant improves overall production throughput by 8%
- ❖ “Line Efficiency” now understood and owned at the operator level
- ❖ Culture shifting from blaming paper quality to focusing on “controllables”
- ❖ Enhanced management processes and better trained staff made it possible
- ❖ Results are sustained



Improved Execution yields an 8% productivity gain.

BOTTLENECK MANAGEMENT | Effectively managing production at a paper converting facility with twelve lines and over seven hundred unique products is a complex task. Different case formats, product changeovers and staffing levels make determining production efficiency difficult. This manufacturing facility needed straightforward management tools to understand performance and to engage everyone in the operation to improve it. >>

In a few short months, this converting operation improved line efficiency by as much as 28% and plant-wide efficiency by 8% without adding more capital or staff. In addition, quality improved and waste declined. They did it by improving their execution.

IDENTIFYING THE GAP

This converting plant was faced with the same reality as the rest of the industry; the need to lower unit costs and improve quality. To intensify the situation, sales was applying pressure for smaller batches, which was resulting in shorter runs and lots of changeovers.

Given currently invested capital, it was clear to senior management that there was a gap between the current annual production of 2.7 million cases and what was actually achievable. "We knew we had room to improve, but we didn't have a good handle on the specifics", says the Production Manager. "Scheduling pointed at the production group, production pointed to maintenance and maintenance pointed at everyone. We wanted to stop playing the blame game and get on with becoming more productive and more profitable."

During a two week Assessment, Perforex determined that efficiency was 55% of "theoretical maximum", giving the plant a large opportunity to increase case production and decrease unit costs. Two key factors contributed to the gap: management processes and managerial skill.

The first step was to determine if the right measures, targets and reporting were in place to identify issues and drive performance improvement. At first glance, it appeared that some of the right measures were in place; Overall Equipment Efficiency (OEE) was in use, and downtime tracking forms showed a lot of detail. Closer analysis however, uncovered some issues – first, problems existed with OEE calculations, secondly, targets were not updated and thirdly, no reconciliation was done to ensure that the eight hours available per shift were accounted for by either earned production hours or tracked downtime. As it stood, 25% of available hours were unaccounted for.



BOTTLENECKS | Identifying the constraint for each product on each converting unit was required to determine production targets.

Moving beyond the information available, the other key opportunity was that of operating discipline. For example, during regular operational reviews, poorly performing shifts were not scrutinized. A culture of acceptance and/or blaming uncontrollables (i.e. paper quality) had taken over.

Another major opportunity identified was the effectiveness of the infrastructure in place to manage the maintenance group. There were very few tools and systems in place to plan, schedule and follow up on maintenance work. There were no metrics in place to manage the group's performance.

Knowing that the answer could not be new capital or more people, management engaged Perforex to design and implement improved management infrastructure and develop managerial skill.

CLOSING THE GAP

The first step towards closing the execution gap was to redesign the way the converting lines and maintenance groups were managed. Together with operators, millwrights, electricians and front-line supervisors, key performance indicators (KPIs) were established, targets were set, evaluation and reporting tools were developed and most importantly, an action planning process was created.

Two key changes were made during the redesign process for the converting lines.

"Accurate measurement and real-time performance management tools take the grey area out... now we always know where the issue is, and are in a much better position to address root causes."

First, 'efficiency' was redefined to reflect the percentage of theoretical maximum produced. Second, the importance of rigorously managing 'downtime' was clearly established. A straightforward set of tools was designed and implemented to track efficiency and downtime on an hourly basis, and identify opportunities for improvement.

On the maintenance side, business process redesign meant developing a series of user-friendly tools to plan and execute work. Conceptually, all of these tools were straightforward, the challenge was in working with staff to put them to use in a disciplined and effective way.

Managing the maintenance department for performance was the next step. Going beyond typical maintenance measures such as up-time percentages and overtime costs, a complete set of performance indicators were developed. Focusing on the specifics that the maintenance group actually controls allowed them to look at their own performance more critically and take steps to improve it.

Reporting and action-planning software was deployed to collect data, track site-specific KPIs and generate user-friendly reports and graphs to communicate performance information to all organizational levels. The software also tracks action plan details and gives management the information needed to communicate with shop-floor employees and



VITALS | Availability of vital supplies was a key contributor to reducing unscheduled downtime at converting units.

monitor performance improvement activity.

"Once the supervisors saw the benefits, they quickly jumped on board" according to the Production Manager. "Accurate measurement and real-time performance management tools take the grey area out. Now we always know where the issue is, and we are in a much better position to address root causes."

RESULTS

After four months of using the new management processes, annualized production improved from 2.7 to 2.9 million cases. "These gains aren't the result of one or two big hit items. They came from improving

product scheduling, product quality, waste, maintenance, parts management, and a host of other items" says the Production Manager. In addition, improved efficiency has given management more flexibility around product runs and staffing configurations.

The Assistant Production Manager is impressed with the qualitative results and tangible benefits. "We used to be constantly firefighting. Now we know the detail of what's happening on the shop floor and operators understand what is expected in terms of activities and ultimately performance. We have finally taken control of our manufacturing process."

References for this case study are available.

PERFOREX partners with companies to significantly increase their profits by implementing operating practices, systems and disciplines that drive results and create sustainable performance improvement. To date, Perforex has closed the execution gap at over 100 operations.