



Management Services

Management Solutions
performance + results

(206) 388-5209

info@mjsmanagement.net

www.mjsmanagement.net

Management Consultants to the Precast Industry

RESULTS IMPROVEMENT BULLETIN

PRECAST BUSINESS RESULTS IMPROVEMENT BULLETIN

Precast Business Results Improvement Bulletins are published by MJS Management Services. Additional bulletins that summarize current management challenges and solutions for the precast industry can be found at www.mjsmanagement.net.

MJS Management Services is a consulting firm that works exclusively with clients in the precast industry to improve business performance and results. For assistance with this or other management challenges please call 206-388-5209 or contact us by email. Visit our web site for a full description of the services we provide.

Please email info@mjsmanagement.net to be added or dropped from the distribution list.

LEAN MANAGEMENT FOR PRECAST – PART II HOW MUCH WASTE CAN I ELIMINATE?

Last month's results improvement bulletin provided background on lean management principles for precast and illustrations of common opportunities to reduce waste. This month we provide value stream mapping examples to quantify the very significant benefits that are available from going lean. Many management teams are surprised by the amount of non-value added activity and waste found in most processes.

With our in-depth knowledge of precast business issues and processes, MJS Management Services is an ideal choice of a consulting firm to assist you to understand and implement lean principles. We can help you get started with lean or provide resources to accelerate progress on current lean projects.

A key step in lean management is value stream mapping to analyse the current status of processes, pinpoint waste and to set targets for future-state lean processes. Our strong knowledge of precast processes means we help to quickly create value stream maps and identify important opportunities for improvement.

RESULTS IMPROVEMENT BULLETIN

PRECAST BUSINESS RESULTS IMPROVEMENT BULLETIN

THE BENEFITS OF GOING LEAN – PRECAST VALUE STREAM MAPPING AND WASTE EXAMPLES

A recap of key attributes of each step in a lean process is provided below. Note that these apply to processes in the office, production and field.

- Adds value as determined from the perspective of the customer.
- Produces the desired result every time (quantity and quality of output).
- Is flexible to be changed very quickly from one product to the next so that work can be produced in small lots.
- Has adequate capacity (not too much, not too little) so that this step does not have to wait on a prior step or produce more output than can be processed by the next step.
- Information flows smoothly to and from the customer.
- Finished products moves to the customer in a “flow” so that total throughput time is not much more than the sum of time needed for the individual steps.
- Product flow is pulled by the customer rather than pushed by the producer.
- Work areas at each step of the process are clean, well organized and the inputs needed to process the work are available (tools, materials, information and work instructions).

Using these desired attributes to assess the processes found in a precast organization will identify much waste and opportunity for improvement. Following are examples from a cross section of processes.

Value stream in production processes

Production functions are often the first to be considered for the introduction of lean management principles. Waste factors (non-value added use of material and labor) often range from 10-30% or higher. Typical examples include:

- Overall scheduling weaknesses means that shop drawings are pushed to the plant rather than pulled in optimum sequence, often dramatically impacting plant productivity.

RESULTS IMPROVEMENT BULLETIN

PRECAST BUSINESS RESULTS IMPROVEMENT BULLETIN

- Scheduling weaknesses also result in the plant pushing finished pieces to job sites rather than being pulled, so material is double handled, time is spent managing storage and retrieval of product and storage space is consumed. Shipping coordination consumes more time than is optimal.
- Production does not “flow” due to scheduling conflicts (non-optimized production sequence including finishing, add-ons and repairs).
- Substantial production labor waste can be created from a number of sources – non-value added work steps, inaccurate or difficult to interpret drawings, poor facility layout, work areas not well organized and clean, lack of standards, tools not available, work not fully planned, crews not trained, material flow deficiencies, underutilization of productivity enhancers such as automation, carts and jigs.
- Material waste and scrap factors higher than necessary.
- Quality issues result in re-work and disrupted production flow.
- Products are not designed for ease of production.
- Production scheduling processes are wasteful due to poor information flow (e.g. scheduler spends more time hunting for information than scheduling).

Value stream in drafting processes

Waste factors (non-value added activity) in the drafting process often range from 20-35% of each drafter's time (this does not include waste caused in production and field from drafting delays and errors). Some examples:

- Lack of standards so elements are custom drawn rather than pulled from a library.
- Best practices not identified and fully implemented– so an experienced drafter may be able to draw a project such as a parking garage of medium complexity in 2/3 the average time, but these techniques are not provided to other drafters.
- Re-drawing – not uncommon over a year's time to find that up to 20% of shop drawings are drawn in duplication due to specification misinterpretation or incorrect assumptions.

RESULTS IMPROVEMENT BULLETIN

PRECAST BUSINESS RESULTS IMPROVEMENT BULLETIN

- Lack of error proofing and quality so checking and correction process is time consuming and does not catch all errors (note: the theoretical target in a fully perfected lean process would be for the checking process to find no deficiencies).
- Poor information flow management (often due to the customer) so progress is disjointed and time is wasted hunting for information.
- Scheduling challenges mean that drawings are pushed to production rather than pulled.
- Resource planning and scheduling weaknesses result in commitments that cannot be met. Troubleshooting and expediting time is consumed to rush completion of priority drawings.
- Drafting sub-contractors are under-managed so below standard work is produced due to lack of standards, weakness at enforcing standards and limited project/subcontractor management skills.

Value stream in estimating processes

Substantial waste factors (non-value added activity) are also found in estimating processes, often ranging from 20-30% of each estimator's time. Some common examples:

- Estimate requests do not provide all the information needed to begin preparation of the estimate so time is spent sourcing information.
- Estimates prepared for low probability jobs.
- Due to lack of coordination, engineering and operations input on the optimum project solution is not readily available resulting in time delays.
- Pricing information (materials and labor) is not readily available or up-to-date so time is spent hunting for information and reviewing historical estimates and job costs. Pricing information is duplicated between estimating and accounting systems.
- Opportunities to automate estimating processes are underutilized.
- Complexity of specifications, uniqueness of projects and lack of experience contribute to accuracy (quality) problems.

RESULTS IMPROVEMENT BULLETIN

PRECAST BUSINESS RESULTS IMPROVEMENT BULLETIN

- After project award, information is not well organized or complete, operating departments not well prepared so the turn-over process from sales to operations is time consuming and repetitive.
- Estimating information is handled in duplication and reformatted to be used in job cost, planning/scheduling and accounting/billing processes.

CONCLUDING COMMENTS

As the examples above highlight, the waste factors found in precast processes are likely much higher than most managers expect. Lean thinking and value stream mapping are tools to identify this waste and create improved processes. All waste won't be eliminated in one shot, but the continuous improvement emphasis of lean results in ongoing progress.

Naturally, because of the importance of linked processes, information flow and schedules, some important waste elimination opportunities require GC's, architects and owners to bring a lean orientation to the project.

Precasters are under pressure to improve performance in a variety of areas such as safety, quality, productivity, through-put and response time. A common management approach is to create an assortment of objectives, programs and initiatives to address each challenge, all requiring resources and management time although often not linked.

The lean approach provides a major advantage as a driver of change and improvement. Lean thinking and resulting good processes automatically produce improvements in safety practices, quality and productivity. So rather than a series of programs, key improvement objectives can be combined under a lean initiative. This unified approach is often easier to manage and less confusing to employees who commonly suffer from "initiative of the month" burn-out.