

Globally optimized estimating processes.(Special Report--Estimating)

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As a printing industry executive facing rising costs, shorter runs, faster turn times, and increased competition, you probably have enough to focus on without spending time on an established process like estimating. The fact remains, however, that the accuracy of your estimating process can have a significant impact on your bottom line.

Although most businesses have a consistent estimating process, consistency alone is not always enough. It is difficult to sustain profits when you underestimate the labor and materials required to perform a task. Likewise, it is difficult to win jobs when your quotes are padded to accommodate unexpected costs. There is definitely a balancing act to the art of estimating. Most managers look for performance flags to evaluate a process and, because of the global nature of estimating, the best indicator of success may be the ratio of planned to actual profitability. If you estimate for a 10 to 15 percent profit margin and your actual corporate margin is closer to the industry average of 2 to 4 percent, there is a good chance that your estimating process needs some attention.

There are few things that affect a business as much as estimating. Based on an average corporate margin of 5 percent, a variance of only 2 to 3 percent in the accuracy of a cost estimate can impact the profit potential of a single job by 40 to 60 percent. For this reason, estimating is an excellent recipient of the benefits of a TGO-based (Theory of Global Optimization) management process.

The Big Picture

TGO is a way of managing the print manufacturing process in order to maximize profitability. The key insight is that a manufacturing operation is like a chain of interdependent links, and only a few constraints control throughput: on-time delivery and cost of the entire manufacturing operation. Recognizing this interdependence helps companies solve complex manufacturing problems. Where traditional approaches focus on individual jobs, work centers, and man hours, TGO looks at the entire plant. To achieve higher profitability, you must increase throughput, and to do that, you must elevate the wider perspective of your business over the narrow focus of a single operation, job, or work center.

TGO was developed by Udi Arieli and his team as the foundation for EFI's PrintFlow dynamic scheduling. Based on **Eli Goldratt's Theory of Constraints**, TGO adapts important precepts for general manufacturing into a system appropriate for the specialized processes of print production. These theories have been stringently tested and refined by Mr. Arieli and his team through 20 years of use in the printing plant.

Find the Weakest Link

The estimating process is impacted by both external and internal factors. External constraints include a client's expectations of performance, namely quality, price, and delivery. Internal constraints include resource capabilities and load. The TGO-based approach calls for you to look at weak links in the system that can turn constraints into costs. Weak links could include incomplete specifications, poor communication, and inaccurate or inefficient production plans. Improvements to these processes will have an impact on estimating and profitability.

The specification process provides a framework for an estimate. An incomplete or inaccurate specification can result in an underestimation of costs and the acceptance of a new job with virtually no potential for profitable execution. Incomplete specifications can delay response to your client, jeopardizing your win potential. Likewise, an incomplete specification can lead to production delays, non-chargeable rework, and loss of client confidence. This is an excellent example of why you may need a globally optimized approach to estimating. A solid specification process integrated with your estimating process is essential to global success.

Frequent Global Review

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Many management systems provide an estimate versus actual review on a job-by-job basis. This level of review can be helpful in the costing and billing process. The TGO approach, however, emphasizes the fact that the theoretical success or failure of a single job does not reflect the overall success of the business. It is for this reason that management must look at the business from a wider perspective. The best way to accomplish this goal is to collect and review information for many jobs over a period of time. This approach is called the COVER process--collect, organize, visualize, evaluate, and react. The COVER process takes advantage of the wealth of information in your management system, and organizes that information into a usable format. This format should, whenever possible, be visual in nature. It is much easier to spot trends on a graph versus a 100-page report. An analysis should occur on a weekly or monthly basis giving you the opportunity to respond quickly to the need for change.

TGO emphasizes interdependence. You must constantly look at the big picture, and identify weak links within your processes, and address those weak links a timely manner in order to insure consistent and profitable performance.

For more information on globally optimized management solutions and the Theory of Global Optimization, e-mail Udi Arieli at udi.arieli@efi.com.

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