**Better Performance Metrics for Business**

Many of the performance metrics listed in this article are not readily available from ERP systems and from accounting information as it is typically presented. But because these metrics drive the right behaviors, the extra effort in setting them up is definitely worthwhile.

There is a blend of metrics here. Some can be tracked hourly; others are more strategic and longer term. A good blend of metrics is important. Also, those that focus on key process outcomes, the constraining resource and synchronization are critical.

**Traditional Metrics that Are Good**

Of course, there are traditional metrics that are very useful. Some examples are on-time delivery (can be measured against ship to promise or ship to request, request being more aggressive), lead-times quoted for customer orders, average days in receivables, quote success rate, etc. Just a word of caution on these metrics – don’t play the excuse game and measure these as your customer would measure them whenever possible. Quality and safety metrics are essential as well.

**Better Metrics Listing and Overview**

We already learned about Throughput, Inventory and Operating Expense in an earlier article. A quick review – these are from The Goal and measure cash flow. Throughput is revenue minus variable costs (print media is a variable cost example, outside die cutting would be another). Inventory is what is purchased that will be sold to customers, and Operating Expense is all other expenses that the business incurs. As a general rule, we want T to go up, I to go down (but not to the point it stops T) and OE to fit in relationship to the benefit gained.

**Schedule Reliability** – this metric takes the production plan (schedule for the day) and compares actual production to the plan. It considers total prints generated versus plan and the time it takes to complete them. So, if 45 jobs were planned for the day and 14 were completed as planned, the success rate is 14/45, or 31.1%. There are many factors that need to work together to make this metric look good. It can be used daily and used long term to see trends.

**Quote Success Rate** (2-4 versions) – I use four versions of this. The different attributes are won/lost and in the primary market or not. So, if you are trying to sell into large box retailers, what is your success rate for customers that are in that category. Success rate can be measured by both the volume of the quotes and by quote dollars. I would measure this weekly or monthly and track it for trends.

**Machine Downtime** – since most printing operations are machine based, this metric is also critical. Downtime includes set-up time, mechanical issues, no operator, no materials delivered, screens/plates not ready, etc. This metric is an absolute necessity at the constraining resource in the company. This should be reported weekly. It can be reported daily for critical resources.

**Supplier Metrics** – Supplier report cards is an example. The report card should consider on-time delivery, product quality at receiving, supplier lead times, pricing and responsiveness, etc. Each of these categories should then be weighted by importance (and price isn’t the most important) to come up with an overall score.

**Cycle Efficiency Ratio** – This measures actual work time versus quoted lead time. If you quote 6-day delivery to customers and the pre-press and print/die cut time (etc.) is 6 hours, then the ratio is 6 hours / 6 days (or 144 hours) = 4.2%. This measures the amount of wait time in a customer order. Causes of this wait time should be addressed. By the way, with the right synchronization, this ratio can exceed 100%.

**T per constraint hour** – this measures the throughput that is generated for an order that goes through the constraining resource. So, if a job has $15,000 in revenue and materials costs of $5000, T I $10,000. If it takes 10 hours of constraint time (set-up and run time, etc.) the job generates $1,000 per constraint hour. Do this calculation on a random selection of 50 jobs. You will be amazed at the differences between jobs and how different this number is than the machine rate generated in cost accounting. This is a strategic metric, but is also useful in quoting and evaluating customer contribution to cash flow.

**Buffer success** – In a previous article Drum-Buffer-Rope was covered. A buffer is a preparation step designed to protect the overall flow and/or the flow through the constraint. The buffer is to ensure that everything needed for the job is ready so the constraint time is not wasted producing a job that will not generate cash flow (puts stuff into inventory because production cannot be completed). The metric here is this: was the buffer time period maintained (if you have it set at one day, was that adhered to) and if not, why not. Fixing the why not improves the likelihood that the production schedule can be executed as planned. It also improves the company’s cash flow.

**Cash flow timeline** – Measures the timeline for when you start to pay for a job (the materials, etc.) and when you get paid for the job. This is more of a strategic metric that can be reviewed quarterly. However, if you’re having a cash flow problem, measure it more frequently.

**Constraint Production Rate** – this is the rate of production measured real-time versus the planned production rate. If the rate is 1000 sheets per hour, what was accomplished? Rate of production at the constraining resource is extremely important to understand NOW so it can be fixed NOW. If a set-up should take 20 minutes, and it is past that by 10-15%, the reason why should be documented and analyzed and corrected (if that makes sense). Many. Companies put up scoreboards in the shop that show the production rate versus plan. This data is also available on the computers of top management so they can see how the day is going versus plan.

**Summary**

There are other metrics that can also be used, like a skill matrix, assessing incoming job information from customers, office metrics (like on-time completion of pre-press, putting the job into the system, etc.). Most of these metrics, as I said before, are not standard and are not typically available as a normal output of the ERP or accounting systems.

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**About the Author:** Bob Krausert is the owner of STRATE***X***, a Twin Cities based firm that works nationwide. Bob is the author of the book, ***Extreme Lean***, published in 2018. Bob has worked with over 60 printing companies, mostly mid-sized companies, but also with larger companies like Jostens and Banta, now part of RR Donnelly. During his career, Bob has trained over 12,000 people at both public and private events. Bob has been working with PIM since 2010, periodically providing educational seminars for its members. Bob can be reached at [stratexlean20@gmail.com](mailto:stratexlean20@gmail.com) or by phone at 612-743-8706. If you would like to have a specific question or topic covered in one of the articles, feel free to make the suggestion!