

Synchronous Solutions

The continuous pursuit of excellence

Synchronous Flow The *proactive approach* to business management

Part 2 (Part 1 was published last month)

Ed Hill
Synchronous Solutions

Synchronous Flow is a process engineering approach to operations management. Every business is a system and every system always has at least one constraint. It is better to manage the constraints than allow them to create chaos in the business.

- *Improved net profit*
- *Reduced process lead times*
- *Enhanced stability and control of business operations*

Synchronous Flow is an overall business operations *system* that brings control and stability to an otherwise chaotic process. It is a professional approach to business management. It is particularly well suited for the custom fabrication industries because it provides a *system* to deal with the variety of events that can occur every day. It is ideal for the business that has grown to the point that it must adapt an overall management and control system in order for the company to continue its growth. It is particularly well suited for a rapidly growing business.

Fundamentally, Synchronous Flow coordinates all the activities of the business flow process to one strategically selected step called the Control Point. This point is scheduled daily to a predetermined level using a metric called *Throughput (\$T)*. Throughput is the measure of value added by the company, expressed in dollars. The amount of Throughput scheduled is predetermined according to the financial goals of the company. All other functions of the business process have visibility of the Control Point schedule and their activities are directed to fill the needs of that schedule.

Planning for a rolling twelve months is accomplished using the Protective Capacity Planner. This tool coordinates the three most important elements of a business plan: the market demand, the internal capacity to meet that demand and the financial goals of the company. Any number of business scenarios can be analyzed and the necessary resources to meet the market demand for each can be calculated. This report also establishes the Throughput goals for the coming months for use in scheduling the business system.

The approach to scheduling is adapted using *Throughput* as the primary metric. Scheduling this amount, which is indicated from the Protective Capacity Planner, and tracking the business system daily to assure that this amount is actually completed, will assure that the financial goals of the company can be met. A customized Throughput Tracking Report is developed to provide daily feedback on production performance and lead time goals. To protect the schedule, several *buffer zones* are established within the business process flow. These *buffer zones* are managed daily by the operations staff. The Throughput Tracking Report and the Buffer Management process are tailored to apply specifically to the specific company's business approach.

Several regular business analysis tools are established to identify the primary *causes* of issues occurring anywhere in the operations process from the invitation to bid, through fabrication and installation of the finished products, as well as the invoicing and collection of payments. These analysis tools are designed to identify the most important issues to be addressed by the company toward continuous improvement of business operations. The process to address these identified issues are rooted in the Synchronous Flow methodologies.

Throughput Accounting

Throughput Accounting is the *operational decision-making* tool of *Synchronous Flow*. Cost Accounting is necessary for the IRS and the bank, but Throughput Accounting focuses on key operational metrics designed to provide control and stability to the business flow system.

The fundamental metric of that approach is Throughput (\$T), which is defined as the measure of value added by the company. All manufacturers simply transform raw materials into finished products. That transformation can be measured as the Throughput of the business. For any order or for any period of time, the sales revenue value of the finished products, less the cost of the materials, freight and outsourcing in those products, equals \$T. Using this basic metric, the business system can be managed to an optimum mix of products, Customers and market segments toward a predetermined financial goal.

In the effective *Synchronous Flow* business system, every key person is aware of the current \$T goals and understands the \$T value of each job. The common language of daily communication becomes \$T rather than square feet, sales value or numbers of jobs. All of the management metrics are based on \$T rather than cost or efficiency statistics.

Throughput Accounting focuses on revenue generation, not product costing. As such, it focuses on the positive potential of a company (the generation of wealth) and not on the reduction of costs. That is not to say that good stewardship of resources is ignored. It's just that the focus is on generating revenue, not cutting costs.

The amount of \$T planned for each day in each product line is a calculated amount that considers three very important factors necessary in effective business planning:

- market demand
- manufacturing capacity
- financial goals

In the ideal world, and that which the *Synchronous Flow* system seeks, there is alignment in all three of these elements. In that situation, Customers are being satisfied, the manufacturing system is in control and the company is making money. Daily *Synchronous Flow* reports make known the performance status of the company relative to the published goals on a real-time basis. Overall company performance status can be posted daily in the form of a *Productivity Score*, which reflects the ratio of \$T generated relative to the operating expense of the business. This means that Managers can know the status of performance every day rather than after the financial statements are prepared several weeks into the following month. Since the Productivity Score does not reveal sensitive financial information, it can be shared with the workers and can be used as a primary motivational tool by the Operations Managers.

Another important principle of *Synchronous Flow* is the importance to establish and maintain *Protective Capacity* within all the functions up-stream and down-stream of the Control Point. Protective Capacity is additional capacity at each resource step planned for absorption of the inevitable delays, mistakes and confusions that occur during the workday. The system's capacity must be *unbalanced*. This is one of the "counter intuitive" elements of Synchronous Flow. The idea is that it is essential to plan for the necessary capacity to absorb the "attacks by Murphy" that are sure to occur. Protective Capacity is not "excess capacity" which implies waste; rather it is essential capacity required for a smooth and predictable process flow. Protective Capacity does not increase costs, it provides opportunity for creation of more \$T. Maintaining the planned amount of Protective Capacity at all times allows a company to:

- Achieve and maintain short lead times
- Absorb the daily attacks by "Murphy" without affecting the Control Point schedule
- Finitely schedule the business with confidence that the schedule can be met
- Bring stability and calmness into the business system
- Confidently sell because there is knowledge that manufacturing can meet the demand

The *Synchronous Flow* Protective Capacity Planning Report is the tool to use in planning for profitable growth. Kept up to date, this report indicates the current status of the business plan and will allow a "what if" analysis to check the effects of most any action. It is the "long-term planning tool" for the business. It allows proactive management of the demand growth in the coming months. It is the essence of planning using the *Synchronous Flow* business system.

It's all about behaviors...

Synchronous Flow brings an array of procedures, policies, tools and techniques to transform the business process from a chaotic, reactive, out-of-control process into a disciplined, proactive and fully-in-control business system. The entire business operation is transformed from a "cost oriented" balanced system to a "Throughput oriented" *synchronized* system. All functions of the business process are focused on serving the Control Point and measures are readily available to indicate the "health" of the operation at any point in time. The approach brings an opportunity for the Operations Managers to deal with the inevitable issues of the day in a *proactive* rather than a reactive manner.

Total process lead times are fully controllable at one week from Template through Install. As needed, the lead times can be reduced even further. Most importantly, the concept provides an improvement in the reliability of the quoted cycle times. Being both quick and reliable is accomplished.

Manufacturing and Operations Managers report that the *Synchronous Flow* program brings a sense of calmness and stability to an otherwise chaotic environment. Being able to address an issue before it has a chance to affect productivity and Customer service is an important part of a successful operation. *Synchronous Flow* brings that ability.

Results

The results of the concept from a group of Fabricators who have implemented have been impressive. Under full load, the average improvements in key operation metrics are:

- Lead Times from Template (information complete) through Install have been reliably maintained at one week.
- Communication and accountability have significantly improved through the practice of Buffer Management.
- Planning and budgeting tools are being used monthly to improve profitability.
- Level loading has improved through the use of \$T as a scheduling metric.
- Chaos has been significantly reduced in the entire operation through the practice of *Synchronous Flow* principles.
- Net Profit increases have exceeded the established goals.

It is important to note that transformation of a business system to *Synchronous Flow* is not an easy task. Effective use of the principles means that essentially every employee in the company will be affected by the process changes. While the essential elements are standard within the *Synchronous Flow* approach, each

implementation will be specifically customized to apply to the particular processes and unique features of each company.

While it is a challenging task, the results of an effective transformation to *Synchronous Flow* can be an exciting journey for the forward-thinking Countertop manufacturer.