

Synchronous Solutions

The continuous pursuit of excellence

Synchronous Flow The *proactive approach* to business management

Part 1 (Part 2 coming next month)

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Synchronous Solutions

Countertops are custom products. Every order is unique. That makes life quite interesting, but it also brings myriad challenges toward achieving a stable and prosperous manufacturing organization. The challenges come in an infinite variety of forms:

- Incomplete, inaccurate and untimely Customer information
- Poor raw material quality
- Jobsite not ready when Template and/or Installation are scheduled
- Color match issues
- Employee issues
- Equipment issues
- Damage to finished installations by other trades
- Weather
- The Covid Pandemic
- Etc., etc., etc.

The possibilities for complications to daily process flow are infinite.

This industry is also distinctive because it is commonly owner operated. Many successful countertop fabricators started in someone's garage and grew to a full-sized establishment with all the complexities of managing a real business. The concepts that worked when it was a small business (hard work and "do whatever it takes") cannot be enough when the owner transitions to a Manager who must organize the efforts of others. The "homegrown" approaches to business management, which may have worked well in the past, may not suffice in modern times with increased technology and a wide variety of products needed to remain competitive.

Moreover, business owners must ultimately transition to becoming *entrepreneurs* who work **on the business** rather than acting as an internal manager who works actively *in the business*. Owners need a system by which business managers can operate the company to the standards of the owner, but without the need for daily involvement. Thus, the owner can concentrate on larger issues such as market growth, equipment technology and long-term planning.

A proven, scientific approach to business Process Flow Management is needed. Actually, there are many such management systems available in the market today. Virtually all the popular systems (Lean Manufacturing, Demand Flow Technology, Six Sigma) are particularly applicable to mass production processes like the auto industry. When thousands of copies of each product are needed, those systems have a place. But for a custom product manufacturer, a flow control system is needed that is specifically designed to recognize the special needs of a custom process.

The concept of *Synchronous Flow* is based on the fundamental principle that any business process is *one system* with common characteristics such as variability, finite capacity and an identifiable constraint, which, therefore, determines the capacity of the entire system.

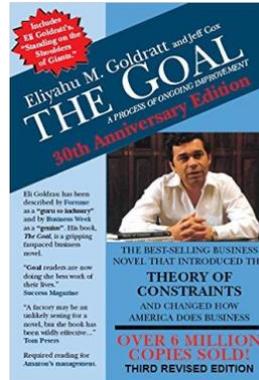
By identifying the system's constraint and scheduling it to a predetermined dollar volume amount each day, the business system can be *synchronized* around this identified Control Point. By controlling the time orders consume in flowing through defined zones in the business system, *total process cycle times* from Template through Install can be controlled to a reliable fixed time, usually one week. This is accomplished by coordinating the release of jobs into the manufacturing system (*input*) at a rate consistent with the completion of jobs at Install (*output*).

Control of the entire business system is rooted in the basic metric called Throughput (\$T), which is the measure of *value* added for the business system. The system recognizes that operating with less work-in-process (WIP) inventory is easier to manage and allows much more responsiveness in manufacturing to meet the demands of the fluctuating market.

Finally, and perhaps most importantly, *Synchronous Flow* provides a methodology to deal with the routine issues of the day in a *proactive* rather than a reactive manner. Daily **Buffer Management** meetings replace the typical production meetings with a system that identifies all the issues that have a potential of affecting the Installation Schedule. Identifying and dealing with the issues in a prioritized manner before impact is much better than "jumping through hoops" once the schedule has been interrupted.

How it Works...

Synchronous Flow looks upon the entire business as one system of separate, but dependent events. That *chain of events*, when mapped from beginning to end, shows that the capacity of the entire chain is limited by only one process step, that being the weakest link in the chain (aka the business system's Constraint). Anything that the business does to increase the capacity and productivity of that Constraint, strengthens the entire chain and makes the business more productive. This is the basic concept of "The Theory of Constraints," which is best described in The Goal, by Dr. Eliyahu Goldratt. *Synchronous Flow* is rooted in this concept.



Using an overall process flow map, from marketing & Sales through Installation and invoice collection, the strategic identification of the system's Control Point, planned "buffers" of work-in-process and a mechanism to control the release of new jobs into the system at the Template operation can be designed. By synchronizing all the functions of the business to a strategic Control Point, the entire operation can be coordinated, controlled and optimized.

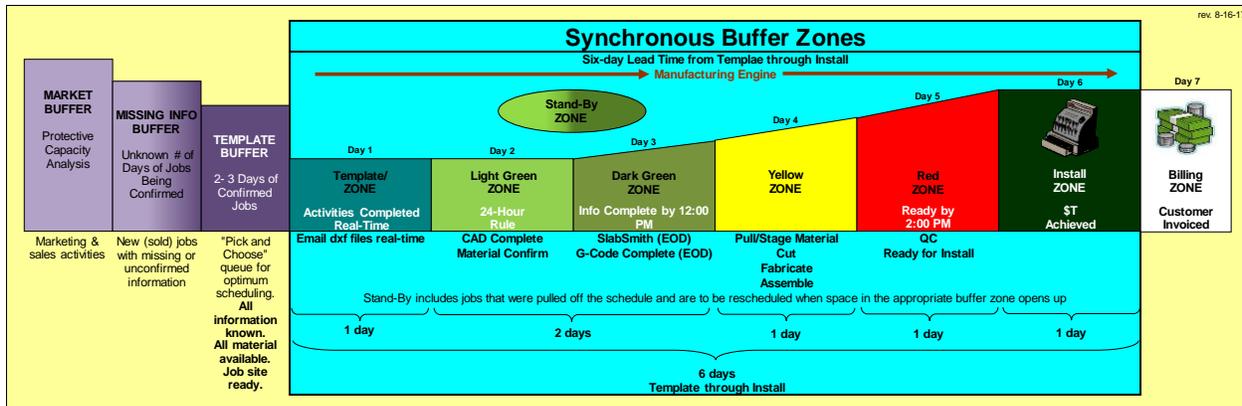
The Control Point is finitely scheduled each day based on its capacity to produce Throughput (\$T). All other functions in the company from Sales through Manufacturing, and including all the support functions, operate to serve the Control Point. Every function in the company is "synchronized" around the Control Point.

Throughput, expressed as **\$T**, is the measure of value added by the company. Fabricators "value added" is the transformation of sheets/slabs of raw material into custom countertops for its Customers. That "transformation" is measured as the sales price minus the investment in materials, freight and outsourcing. The result of that calculation is \$T.

A job priced at \$5,000 and having \$2,000 worth of materials would have \$3,000 worth of \$T. That is a 60% Throughput Ratio.

The desired mix of products and Customers is scheduled each day based accumulating the \$T value of each job to achieve the maximum profitability and Customer service. This finite schedule based on the \$T for each job becomes the "drumbeat" for the company.

To manage the daily operations in a proactive (rather than reactive) manner, companies use another key element of *Synchronous Flow* called **Buffer Management**. The idea behind Buffer Management is recognition that there *will* be problems in the normal workday. Material issues, Customer information issues, quality issues, equipment issues, people issues, etc. are inevitable and the business system must be prepared to deal with them. Designing into the business process a method to **manage proactively** is much better than constantly "fighting fires" with little effort toward preventing them in the first place. The disciplines of Buffer Management bring those virtues to the operations of the business enterprise.



Buffer Management is accomplished by dividing all business operations into sequential “zones” reflecting a “time scheduling” approach for controlling the jobs as they move through the business system. Based on the date of *Install* (or ship, deliver, pick-up), each job is planned for a certain Buffer Zone location each day. As jobs are processed, Management can monitor the status of each and can identify actions required to assure that each one can meet its schedule. Overall, Buffer Management brings a system of control to the process by optimizing the volume of WIP within each zone on a continuous basis.

As a process of **accountability**, the first issue to be discussed in the agenda of each Buffer Management meeting is the follow-up on all assignments of the previous day. Assigned persons simply report that they have (or have not) completed the resolution of the identified issue. *How* it was accomplished is not reported, only that it has been resolved. If a resolution is not complete, a new assignment (possibly the same person, possibly someone else) is made as necessary. In this manner, no issue can “fall through the cracks” and cause more serious problems for the company as it is compounded over time.

During the meeting, the current status of the business is reported including performance relative to preset goals in daily Throughput (\$T) for each product line. Current, actual cycle times in manufacturing from Template through Install and from Cut through Install are reported for each product line. The amount of work yet to enter manufacturing, expressed in elements of time and Throughput dollars, is reported indicating the demand in the coming weeks for each product line. At the conclusion of these brief reports, everyone present knows the current business status, updated each day of the month, relative to the performance goals and the coming demand within each product line.

Then, the status of each Buffer Zone is reported by the operations person in charge of each area. A “hole” is reported if a particular job is not in the position within the process that it should be according to the *Synchronous Flow* scheduling process. The zone location of the issue in question determines its priority for action. A “buffer hole” in the Red Zone will affect the Control Point in a few hours, whereas a “hole” in the Green Zone will not affect the Control Point for several days. Therefore, assignments are prioritized and *proactive* actions are planned to achieve resolution of each issue identified.

A review of the Buffer Management Log, in which a brief description of each “issue” is recorded, will allow identification of the most chronic issues for a managed effort to truly solve the problem

and prevent the issue from reoccurring. The test for effectiveness is that the identified issue does not reappear in the records of the Buffer Management Log in succeeding months. By definition, this approach will address the issues that are occupying the valuable time of the operations people and the management staff within the business. As the most serious of these are solved, the time that those issues required each day is converted into planning time during which *proactive management* is accomplished. Inevitably, the stress levels of the operations and management staff is reduced, and a sense of calmness and control is introduced into the daily routine. Users of the *Synchronous Flow* Business System report that the **quality of life** improves for the people within the business system. Others report that an extraordinary period of growth was accomplished only because the business practiced the principles of *Synchronous Flow* and used the planning tools it provides to grow intelligently and profitably.

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