

Get Important Things Done On-time!

Plan to do unimportant things!!

Typically, we must work harder than we anticipated to achieve our critical objectives on time. Sometimes we work harder and our critical objectives still take longer to achieve than we originally planned. Other needs and less critical objectives vie for our time and resources, and slow us down.

When Pro-Log improved its project planning with PERT charts and Critical Path Method (CPM) analysis, we hired a consultant from a nearby graduate school to teach us the basics. The course went smoothly until the manager of drafting asked a real-world question: *How could he best schedule his drafting resources so as to meet the needs of several projects at one time, in spite of unpredictable problems and timing changes on one or more of these projects?* Unfortunately, the consultant attempted to answer the question with detailed suggestions and mathematical formulae. He got tangled in his answer.

This essay explains the root of the problem and how to make plans that realistically deal with it.

The Freeway analogy

Scheduling tasks through a business is like driving cars on a freeway (See Fig. 1). The freeway has a limited traffic capacity which depends on road conditions and its optimum car-speed and car-density product. Theoretical capacity might result from cars traveling 55 mph separated by five car lengths or from cars traveling at 65 mph separated by seven car lengths. (Freeway drivers try to average 75 mph separated by 0.5 car lengths, but that's another story).

When a freeway operates well below capacity, for example at point A in Fig. 1, its traffic is reasonably light and each driver sets his own speed. When more vehicles enter the flow of traffic, or drivers change lanes, or individual drivers speed up or slow down, other drivers easily accommodate the changes without slowing down.

However, when a freeway operates near capac-

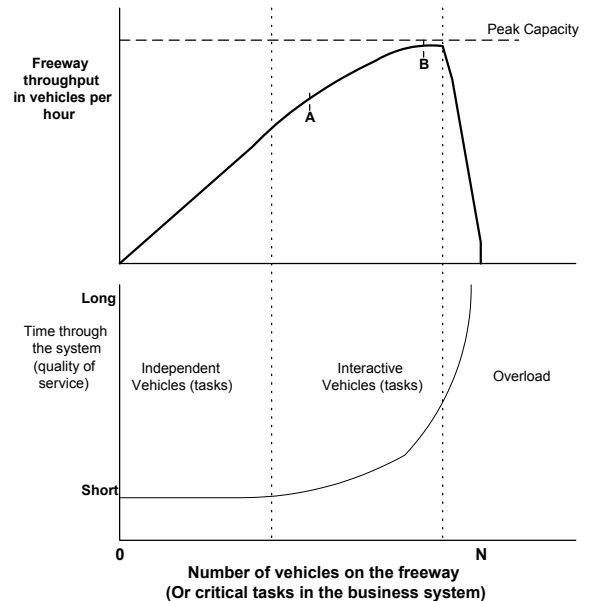


Fig. 1: The relationships between the number of cars on a freeway, the throughput of the freeway (system efficiency), and the average driving time per mile for individual vehicles.

ity, point B of Fig. 1, the average vehicle moves more slowly and its speed is controlled by the flow of traffic, not by the plans of its driver. **Point B is in the region of peak efficiency**, which is also a region in which the system is highly vulnerable to overloads that foul up everyone.

The freeway at peak efficiency is an intrinsically fragile system. When more vehicles enter the flow of traffic, or drivers change lanes, or slow down, the system can plunge into overload: throughput collapses, cars come to a screeching halt and the freeway turns into a parking lot. At the point of peak efficiency, cars are tightly coupled and the freeway is close to a phase change from a flowing liquid to an immobile solid.

On the other hand, at point A of Fig. 1, because there are fewer cars on the freeway they are loosely coupled to one another. The action of one car has little or no impact on other cars. Each car is able to go as fast as the driver chooses and to reach its destina-

Scheduling tasks through a business is like driving cars on a freeway.

Excess capacity is essential to a system's robustness.

tion according to the driver's plan. The "excess capacity" of the system performs a valuable, constructive role. It enables the average vehicle to reach its destination sooner. It increases the probability that individual trips will be completed on-time. It makes the system robust, more able to handle unplanned contingencies. ***Point A is in the region of peak effectiveness.***

Each worker and each workgroup in a company is like that freeway; the critical tasks are like the cars that have to reach their destinations within a specified time. Many people and organizations plan to work at full capacity, where that capacity is a function of their abilities and the time they put into their jobs. By loading themselves at peak capacity with critical jobs, the best possible outcome they can hope for is that all critical jobs will eventually get done, but take much longer than they'd planned. What usually happens is that these individuals and organizations become parking lots or beep-and-creep roads for critical work.

How to Plan to succeed

How can we plan critical activities in a way that avoids overloads and enables us to get them done on time? The freeway analogy suggests a solution: plan critical tasks at significantly less than peak capacity so that there is capacity margin for the unexpected.

This is a difficult solution to sell. Managers normally challenge this kind of plan and pressure us to become fully loaded with critical tasks. These people prefer plans that look impressive on paper to results which consistently correspond to plans.

Furthermore, this solution doesn't work by itself. Simply reducing the workload isn't a complete solution because, unlike a freeway, our individual and workgroup capacities are not really fixed. These capacities, like muscles, increase somewhat with proper nourishment and conditioning, and atrophy when underutilized. Our capacities shrink to fit inadequate challenges. We barely get the critical tasks done regardless of how little we plan to do.

Parkinson's Law said that "Work expands to fill time." A more accurate Law is: "Capabilities atrophy so as to barely complete work in the time allotted."

We can do three things to prevent capacity atrophy in ourselves and in our workgroups:

1. Plan for reserve capacity.
2. Exercise this reserve so that it's available when needed.
3. Define important tasks to do as soon as the planned tasks are accomplished. (This adds a sense of urgency.)

This isn't brain surgery. It's practiced by the successful coaches of athletic teams. A team's reserve capacity is its *bench*: players who spend most of the game waiting to play. But without bench players who are in top shape and ready to play, a team has no chance for a winning season; no matter how good the starters are.

My personal system

My personal system for maintaining usable reserve capacity works very well when I actually employ it. First I divide planned tasks into three groups:

- A- Critical: must be completed on schedule to succeed.
- B- Important: must be 80% completed as a group to succeed.
- C- Useful but not necessary. (The C tasks are equivalent to the spaces between cars on a freeway.)

Then I plan 70-80% of my available capacity for the A and B tasks, and plan the rest for C tasks.

The experienced manager will laugh, or perhaps sneer. By the time she plans A and B tasks she has committed well over 100% of realistic, sustainable capacity. However, when critical tasks require more than 80% of my capacity, it's time for me to stop and re-plan those higher level objectives and strategies that generated those tasks. Those strategies are flawed because all the objectives they depend on won't be accomplished.

As I execute my plan, the unexpected usually crops up in one or more of my A tasks and/or an unforeseen A or B task is added to my stack. I simply drop some of the planned C tasks and transfer my efforts to the A tasks. By the time I've finished I find that my resources were used in roughly this way: over 90% for A and B tasks and less than 10% for C tasks. I will have experienced some schedule delays, but I will have kept all critical tasks on or near their planned schedules.

A & B Tasks

- Strategic Planning
- Interviewing and selecting people
- Managing People
- Launching a New Product
- Increasing market share by 10%

C Tasks

- Reading magazines
- Attending seminars
- Doing the work of subordinates
- Opening mail
- Organizing my desk
- Writing management articles

Fig. 2: Classification of some of my tasks when CEO of Pro-Log.

Human behaviors in chronic overload

When our business plan lacks adequate reserves and the business system goes into chronic overload, we do strange things. One of the more interesting behaviors is that most of us work less on critical tasks and begin to devote more and more time to non essential tasks!

My explanation for this phenomenon is that when we are in overload, we feel impotent instead of important. To boost our self-esteem we tackle tasks that are relatively easy and whose success is quick and certain. We clean our desks, answer our mail, do our subordinates' work (favorite choice of executives and CEOs), and/or complain about management (favorite choice of subordinates). Work groups shuffle paperwork, hold unproductive meetings, and complain about management.

Another common behavior is for a frustrated executive to select one project, put pressure on everyone to get it done, and succeed. What happens is that everything else is shelved in the process, like shoving cars off the freeway so one person can drive it at full speed. Invariably the executive draws a different conclusion from his success: his subordinates aren't doing their jobs! With a little more planning and elbow grease (per his example) everything would get back on track!

I have also seen people in severe, chronic overload volunteer for additional critical tasks! I think I know why. The act of volunteering, a non-essential act at best, brings them a brief shot of self-esteem, similar to a drug induced high.

How to get out of overload

As individuals, we usually get out of chronic overload by quitting or being fired, by getting seriously ill for an extended time, by dying, or by getting transferred to a totally new job within the company. These actions temporarily (except for dying which is permanent) reset us to the origin of Fig. 1. There we are ready to move up the capacity curve to overload in a new job.

An individual, workgroup, or management team that is in overload has only one productive choice: stop working, take time to re-plan, and chop out or delay some critical objectives by re-thinking the strategies that established them. This kind of re-planning requires the cooperation of higher management.

The choice to re-plan takes great management courage. None of us finds it easy to concede that everything has really degenerated to beep and creep. We hate to admit that our choices are to do fewer things to a new plan, or nothing to the original plan. We are tempted instead to hire more people and to pursue the original plan. But, hiring, assimilating, and training people is another Critical task dumped on to an already overloaded system!

Overloading, downsizing and cost optimizing

The impetus to work at peak capacity is usually cost driven. Cost driven "optimization" is behind the current avalanche of corporate downsizings and the efforts to restructure our medical care system. In some cases a downsizing eliminates waste, in others it simply increases the probability that the system will go into overload. Let's look at two cases: the consequences to consumers of downsizing PG&E and cost containment efforts in our national medical care system.

Downsizing PG&E: lights out!

PG&E supplies electric power in Northern California. This utility began a cost cutting program some years back, assuring one and all that the quality of service would not be impaired. To quote the May 19, 1996 issue of the San Jose Mercury News: "When more than 5 million people lost power during the storms last December, some for as long as eight days, PG&E blamed the weather, not cost cutting." ... "The truth is quite different:"

Regulated utilities are not paragons of efficiency. There are significant opportunities to cut fat. However, what PG&E did to cut costs included

Some people in chronic overload volunteer for more work!

PG&E,
a once
robust
system,
has
become
fragile.

postponing maintenance and cutting its “bench” strength of competent repair people. (N.B.: Preventative maintenance is an ideal activity for “bench” personnel: it keeps them trained for emergencies, can be suspended to free resources for emergency responses, and reduces the probability of emergencies!) According to the article, PG&E was some three years behind in replacing rotting poles and clearing tree branches over power lines.

There is little wonder that the December storm wrecked havoc when its winds toppled poles and tree branches downed power lines. Many customers were without power for up to 8 days. But, not so strangely, PG&E’s management claimed that cost cutting didn’t exacerbate the problem. They proclaimed: “*PG&E was prepared!*” Of course their executives had to say this, otherwise we might suspect them of less than competent management. Worst of all, their board of directors might look for new executives, or eliminate bonuses based on quarterly profits! (I’m guessing that these bonuses actually exist.)

What PG&E’s management did, in effect, was attempt to move the utility system from Point A of Figure 1 to point B: from peak effectiveness to peak (short term cost driven) efficiency. As a result a once robust system has become fragile and with increasing frequency leaves its customers in the dark.

Cost containment in medical care: how to end the population explosion!

Doctors and private hospitals tend to work inefficiently and then achieve their revenue goals by

charging as much as the market will bear. They instinctively operate at point A of Fig. 1. Patients, who are willing to pay the costs of “inefficiency,” can always find excellent medical care on short notice. Most patients put the quality and availability of their own medical care ahead of costs. They will complain bitterly about costs, but when personal health and life expectancy are at stake, costs are secondary.

The government, medical insurers, and HMOs taking over the payments for medical care are cost driven. Since they don’t directly suffer the consequences of their professional priorities, they really do put costs first.

To contain costs, they “fully load” doctors with patients. As a consequence, patients are backlogged, wait longer for medical care, and receive care of lower quality because doctors rush from one patient to the next in order to meet their patient quota for the day. Emergencies become intolerable crises that overwhelm the caregivers and leave other patients waiting indefinitely.

At some point, doctors and nurses will go into overload (as they do already in county hospitals), make gross mistakes, accidentally kill patients, get sued, and eventually flee the medical care system in droves. When that happens, large numbers of patients will be parked in waiting rooms, like cars stuck on a freeway in rush hour, or like PG&E customers sitting in the dark.

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