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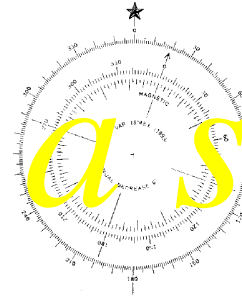
Why Schedules Fall Apart

How likely is your schedule to fall apart? Statistics suggest this is more likely than you might care to know. We cannot simply create a schedule and stick to it, and here's why.

Every schedule can be viewed as a set of tasks linked together in some order, first to last. Some tasks must happen before others, while others occur simultaneously, and still others must wait until after yet others are completed. Each of these task connections increases the uncertainty within the network of linked tasks.

PERT/CPM theory assumes that each task estimate will have about a 50% chance of occurring within the estimated time. Every estimate is assumed to be an average value, bounded within a normally-distributed curve. If we sequence two tasks, each with these same 50/50 estimating characteristics, the resulting probability of this two task SERIES falls from 50/50 to 25/75, or a 25% chance that the two tasks will be completed within the estimated time and an alarming 75% chance that the series will finish in more time than estimated. Add a third task to the series, and the probability of completing the series within the estimated time frame falls to 12.5%, while the probability of failure rises to 87.5%. A fourth task will pull the overall probability of success down to 6.25%. A fifth degrades it to 3.125%. By the sixth task in this series, the probability of comple-tion within the estimated time begins an endless, asymptotic dance with zero.

The one thing we should (but never seem to) know is that our bright and shiny new schedule shows with a 99% certainty how our project will NOT happen.

"The one thing we should (but never seem to) know is that our bright and shiny new schedule shows with a 99% certainty how our project will NOT happen."

Yes, you might say, this is obvious. The solution is to pad the estimates, so that we have ever broader boundaries within which to work. This strategy should keep the schedule from falling apart. Okay, let's look at the effect of padding the esti-mates to maintain the schedule.

If each task has a raw estimate of 10 days, the 50/50 estimate can be improved by adding one third additional time, bringing the probability of completing within estimated time up to just over 65/35. Adding an additional third brings the initial task's probability of within-time completion to nearly 85/15. Our amended, higher probability estimate of 16 days might give us some comfort, but uncertainty's degrading effect works on this series just like it worked on our ear-lier one. The second, equally padded task in the series degrades to a probability of 70/30, the third to 60/40. By the fourth task, the series is back to a 50/50 proba-bility. By the fifth task it's just better than 40/60. By the thirteenth task, the proba-bility of success has fallen to less than 10% even with the padding.

One other thing happened as we padded our estimates, we lost our original boundaries around the effort. "Safe" within our inflated boundaries, we lost the landmarks that might have helped us navigate this channel.

"Wait just a minute," your incredulous self might respond. "Won't the law of large numbers effectively neutralize this degrading effect of uncertainty? Won't half the estimates fall above and half fall below the midline?"

The short answer is, "No!" The law of large numbers is not working within this linear task series. Because of this, not only will the actuals not fall evenly on either side of the average line, the size of the failure side will quite naturally grow exponentially.
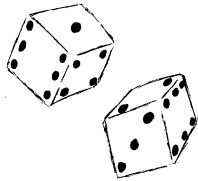
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So, whatever we do in estimating, our schedules fall apart. Our initial estimates can never be good enough to prevent the eroding effects of even initially small amounts of uncertainty. Nor can simple padding prevent this inevitable catastrophe.

Beating the Odds

Whenever we specify how we will accomplish something, we carve a slim thread out of the range of all possible paths to our objective. This slim thread cannot (as shown above) have a high probability of occurring. Following the wider path of all possibilities might help the project stay within boundaries but it limits the usefulness of the boundaries. This is a contradiction that sits underneath all scheduling schemes. Your scheduling tools are useful in creating a linear project model, but they cannot produce a realistic model or a model with a high probability of occurring. Confusingly, the higher the probability of occurrence, the wider the path outlined, and the less useful the resulting model.

Each of us can produce *retroactive schedules* with flawless accuracy, so perhaps we should look there for guidance! For instance, produce a high-level milestone schedule of the significant points in your career, starting with high school graduation and ending today. What would your high school guidance counselors say about this schedule? They might say that it is inefficient, that it meanders and relies too much upon coincidence. You might notice that what they interpret as meandering was actually you learning better what you wanted; you taking advantage of emerging opportunities. You got smarter than you ever could have been at the start. Whatever criticism might be heaped upon your retroactive schedule cannot dilute the fact that it occurred as planned. Few proactive schedules can boast this.

What can we carry forward from this exercise to make our future project schedules more effective?

1- Never Mistake The Method For The Mission. The path to your objective is not your objective, and straying from this path will be necessary to reach your objective. Divergence from plan is how the objective is reached.

"Divergence from plan is how the objective is reached."

Work with your sponsors to help them understand that their well-intended attempts to maintain accountability by insisting that the project execute as planned doesn't help the project achieve its objective. If the project must both execute as planned and achieve its objective, the numbers suggest (and I'm not making up the numbers, kids) that this is a double-binding expectation, one that creates an unmanageable contradiction for the project.

2- Plan early and often. To paraphrase the old adage about voting in Chicago, planning early and often will preserve the possibility for success by allowing you to take advantage the of learnings and coincidences that so contributed to the success of your retroactive project plan. Managing a schedule is a process of destruction and recreation which refreshes expectations, thereby preserving the possibility for achieving the objective. You will be wiser with each recreation and your project will be better for it.

3- Defer Details. Frame expectations within time boxes, but defer the details for far distant project activities. The likelihood is very high that these activities will never execute as originally expected. I remember (and not that fondly) a project I led early in my career to plan the five-year conversion of a very large application. No task was planned as greater than forty hours, and each estimate was padded within a most likely - least likely weighted average framework. After several months spent producing this plan, the members of the senior management review committee noted the details, turned to the last page, gasped at the bottom line, and canceled the project. I could have made them gasp with a few scribblings on the back of an envelope and not missed the bottom line by an order of magnitude.

4- Stay In Touch. The schedule is not the project and the project is never the schedule. The schedule might provide a useful framework within which to understand what is going on around you as the project unfolds, but it is never, again as the numbers suggest, the final arbiter of project success. das

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Things Project Managers Do To Destroy Their Projects

Mistaking the method for the mission.
Forgetting to acknowledge the presence of the soup they're in.
Trying to fix the soup.
Scheduling as if 40 hours is a reasonable full-time weekly commitment.
Expecting that things will always be done right the first time.
Trying to avoid temporary incompetence.
Trying to manage everything at once.
Mistaking a less than fully competent agreement for a real commitment.
Insisting that everyone in your community be committed.
Asking for stuff without expecting to give something in return.
Creating the schedule before creating the plan.
Assuming that everyone's overwhelm limit is greater than infinity.
Mistaking momentum for progress.
Expecting themselves to be perfect.
Manage guesses as if they were reasoned assessments.
Estimating for others (without telling them the targets).
Spot-sharing the vision, once.

What would you add?

What Traditional Project Management Training Doesn't Teach You About Managing Projects Can Hurt You!

1. You are the most powerful project management tool you will ever use.

Too much time is spent trying to automate the management of projects! It's better to tune up the tool that is most likely to make a real difference. You!

2. The key to managing projects effectively is to create self managing projects.

If the project is not able to take care of itself, it won't succeed. More projects fail because they are unmanageable than because they have been mismanaged! It's better to make them as self-managing as possible.

3. The key to creating self-managing projects is to encourage open rather than closed system behavior within your project community.

Classic project management strategies focus on closing the system, saying "Put the project in a box and defend the boundaries." Many projects today defy such predictive management. They must instead be managed by an adaptive process -- an open rather than a closed system strategy.

4. Project work is more effective when its fun.

Project team members who are enjoying their experience create higher quality products than those who are suffering. Failing to attend to the quality of your team's experience is an act of sabotage and an act of self destruction for a project manager. Until it's fun, it's better left undone!

Why Mastering Projects Workshop?

•Today's innovation focused projects are different and often unmanageable.

MPW shows you how to learn the unique approaches needed to tame the most unmanageable projects.

•Many who can effect the outcome of your project are not part of the project team.

MPW shows how to bring differing perspectives together and provides skills for building cooperation and community without overwhelming yourself.

•This approach works -- even in the most difficult contexts.

MPW was developed from research of key differences between exceptional and average-performing project managers in the most difficult project contexts. MPW focuses on how to deal with real world issues facing today's complex projects.

•The best project managers teach themselves how to adapt to the situations they face.

Adults learn from experience. In MPW, participants focus on activities that provide real improvement on the actual projects they bring to the class. Each attendee leaves the workshop with a more manageable current project and a practical process for improving this and every future project assignment.

Notices:

Upcoming Weinberg and Weinberg Problem Solving Leadership Workshop (I'll be facilitating):

June 14-20, Albuquerque

September 14-20, Albuquerque

Contact Suzi Brame at Wk: (503) 721-0908 or Fx: (503) 226-9066 for details.

An open enrollment Mastering Projects Workshop will be presented June 2-4. Contact Amy Schwab at (503) 653-9773 or amy_schwab@hotmail.com.

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About Compass

Compass is published quarterly by *T*rue *N*orth pgs, Inc., and is distributed free of charge to a project-oriented community.

I've created Compass as a navigation tool for continuing your process of becoming a project manager. Compass shares stories and insights to serve as the basis for you to provide more effective project leadership to your team. It is through sharing our stories and our insights that we enable each other to improve the quality of our project experiences.
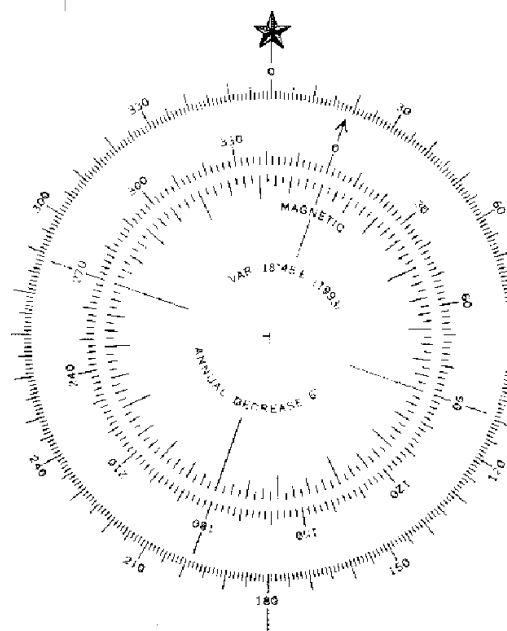
Ask for permission and you'll get it.

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project management tool

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Address Correction Requested

Qualifying Your Community

"Commerce between master and slave is despotism." *Thomas Jefferson*

You may have been involved in project kick-off meetings where, after a facilitated discussion of the objective and a pep-talk about the importance of the initiative (with heavy hints at how wonderful this assignment will look on your future resume) the sponsor begins the eye-contacting excursion around the conference table, asking each in turn, "Are you committed?" Most of us will answer in such circumstances a choked, "Yes," if only to avoid making a scene.

There is a rule in commercial transactions that says a contract with an incompetent party is not a valid contract. It won't hold up in court. This is why a verbal commitment from a community member isn't worth much without some-thing verifying that the community member is competent to make such a commitment. Intimidating eye contact does not make anyone competent.

The process of developing a project plan is a process of qualifying, of making competent, your project community. Every project planning experience uncovers unsettling information. How the leader and the team deal with this information is key to the eventual competence of the supporting community.

Those who hide information disqualify their community. How could they ever be competent if you didn't inform them of what they needed to know? Those who spin palatable half-truths deserve the hollow commitment these engineer. If the only way to get the support you need is by failing to give the support THEY need, no contract has been executed.

Those who accentuate only the negative disqualify in another way.

You do not know enough, the old adage says, to manage the project if you can't imagine three ways in which your project might fail, but you are probably just as encumbered if you cannot imagine three scenarios under which your project might succeed.

One of the attendees in my recent open enrollment workshop in Vancouver complained as the workshop neared completion. "I'm not getting what I wanted from this workshop. I expected to get tools to help my team and I haven't gotten any yet."

"What would these tools look like," I asked.

"I'm not sure," she replied.

"How, then, do you know you have not gotten them?" I responded. She left during the next break and the sponsoring authority refunded her tuition.

I try to be careful to qualify those who participate in my workshops because those who come looking to be fed some magical cure for their project ills will most certainly be dissatisfied. Those who are not certain what they want cannot be satisfied. Those who will know it when they see it are unlikely to see anything they would ever recognize as "it."

My lesson from this encounter resonates back to even my simplest project experience. Project management is about setting reasonable expectations, not about enforcing commitments. The commitments I need from you cannot be coerced, and you don't want what coercion and ignorance will garner from me. das

"The commitments I need from you cannot be coerced, and you don't want what coercion and ignorance will garner from me."

David's Note:
Hi, for those of you who don't yet know me, I'm David A. Schmaltz, President of $\mathcal{T}$rue $\mathcal{N}$orth pgs, Inc.

Amy Schwab is now a member of True North pgs; the Chief Operating Officer and a Consultant. This didn't happen by accident or by design. One becomes initiated in this business by learning the hard way. Amy learned that the compatibility of your computer with any printer is inversely proportional to the urgency of the print job. (Hooray for Macintosh machines and for floppy disks!) Amy learned that it takes two days to do a month's accounting even if you know what you're doing, even though the accountant says it shouldn't take more than an hour or two. Amy learned that knowing what you want might just be the best credential you can ever give a prospective client. Thanks, Amy, for reminding me of what I should have remembered I already knew! das

"Today, Leonardo (da Vinci) would barely squeak by in a third-grade arithmetic class." *Peter L. Bernstein in Against the Gods*

Shift Happens...

...in one of two ways:

To you, in which case you are victim to the shift, and you might omit the 'f' from that short, two word phrase, spending far too much time looking for the culprit behind what happened "to" you.

-- or --

By you, and you are master of the shift. The shift creator has a better time riding the waves of change. Making this choice means being clear about what you really want, persistent in your pursuit, flexible about how it will come about, and awake enough to recognize it when it becomes reality.

Either way you get what you focus on. The choice of target is yours. As master you direct, as victim you react. Masters delight, victims suffer. Which role do you prefer?

Amy Schwab

It is my delight to introduce myself to you. I am Amy Schwab, Chief Operating Officer and Consultant with True North project guidance strategies. I feel very humble joining this community and honored at the prospect of helping you master making shift happen.

I have spent more than my fair share of time feeling victim to shifts. And although I learned to become master in various areas of my life, there were still certain situations out there such as corporate culture, stupid management, and short-sighted decisions that held me hostage for so very long. I remember waking up to the simple lesson that it is up to me to choose whether I am victim or master of each circumstance. Everything has been different since.

My goal is to help others wake up to this choice, to help them become master of their shifts. To do this I offer my perspective on how such personal shifts can affect working with large business system and process changes. My formal experience and training is in process reengineering, business process redesign, and continuous improvement, as well as strategic planning, marketing, financial analysis and systems thinking. I developed these skills in a variety of cross-functional roles within a Fortune 500 company, most recently as internal process improvement consultant and reengineering project leader.

My passion is helping people transform organizations from outdated command and control structures into adaptive environments that can evolve rapidly enough to meet the challenges of the emerging future. I want to help create organizations that are safe places for people to work, where individuals can master their own shifts and realize their heart's desires.

My two roles with True North are Consultant and Chief Operating Officer. As Consultant, I work with project managers, community members, project teams, and executives who are looking for ways to become masters of their own and their organization's shifts. You can rely on me to provide an honest assessment of what I see -- to be the "holder upper" of the mirror, and the gadfly by sometimes pointing out that the emperor has no clothes -- or that, at minimum, the tie is clashing badly with the suit!!

"You can rely on me to provide an honest assessment of what I see -- to be the 'holder upper' of the mirror, and the gadfly by sometimes pointing out that the emperor has no clothes -- or that, at minimum, the tie is clashing badly with the suit!!"

My consultant role is to provide permission for those inside an organization to speak what they've known all along was true and to provide confirmation that their judgment is still sound.

I will also be helping companies develop the effective governance structures needed to support and sustain their projects. These structures help integrate the learning and knowledge of the project team with the learning and knowledge of the broader community. This integration is an important element helping individual project team and community members become masters of their shifts.

My role as Chief Operating Officer is to broaden True North's context -- to live up to my reputation as a "pebble in the shoe." I am helping to expand our business capabilities and curriculum to meet the growing demand for training on True North's more rational and useful approach to managing today's projects. And my focus is on spreading the word that there is another project management approach -- one that not only works but encourages a higher quality of experience for the entire community -- one that encourages mastery, not victimhood.

So we return to the essential question, would you rather be shift upon, or be master of your own shifts? It's all up to you, but you need not be alone on the journey. I look forward to accompanying you as you create your own bright future and gain mastery of your own shifts. aas

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"Charisma without depth is dangerous,
 Data without imagery is dull,
Fact and fantasy intertwined
Tickle the fancy, shape the mind."
Doris Treisman