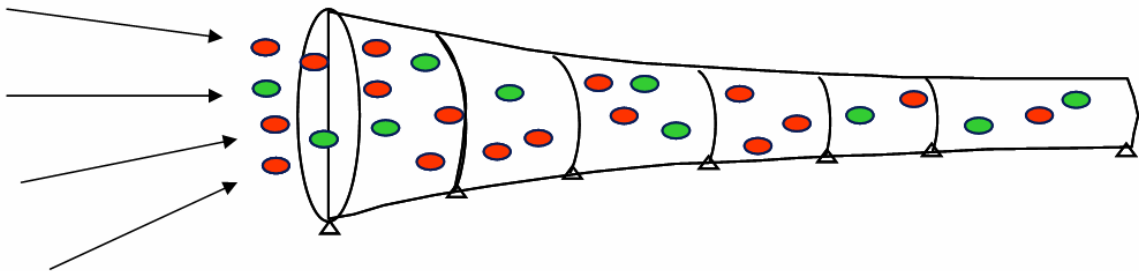


# 7 Steps to Improve R&D Throughput...

## ...by Working on *Fewer* Projects



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When a good opportunity surfaces that requires product development resources that are already committed to other things, what do you do?

Do any of these voices sound familiar? "If you don't at least put some resource on it to get started, it will never finish." "Since we're always late, at least the sooner we start, the sooner we'll finish." "With all the people and money we sync into R&D, we should be able to figure out how to get it *all* done."

How does engineering react? Sometimes engineering may be obstinate because of history and personalities. However, more often than not they want to "do it for the good of the company". "Let's think positive." "If we pull a little bit of resource from here and there, that shouldn't hurt too much." "If everything goes well, maybe we can pull this off." Or worse yet, you may just get back the answers you wanted regardless of feasibility.

It's probably not the first time you've raided your other development projects. Maybe you got caught with unexpected customer support issues, siphoned resources off to work on an internal improvement or already started with a stretch plan during annual planning. Your projects may already have been hurting by virtue of not being staffed for success. A typical result is that not only don't you make the deadlines on the new opportunity; you've ensured that you'll miss deadlines on other things you are working on too. It doesn't take much for the dominoes to start falling.

Are you confident you really know what your capacity is? What do you do when you are going to exceed it? If there is an "80/20 rule", chronic issue that pervades companies that constantly have challenges with timely product development execution, this is it. Most firms don't manage their capacity as though it is a scarce set of resources that they are trying to maximize the benefit of. As a result, they put too much in the pipeline and hope for the best. They always seem to be counting on executing better than their track record suggests their capability will allow.

What are some of the symptoms?

- Engineering release commitments to initial plans are rarely made
- Release dates seem to slide frequently despite re-plans
- Sales may even keep their own "set of books" about release dates to buffer customers from R&D's inability to execute
- Reprioritizing typically means that efforts continue at reduced rates rather than stopped
- The "go-to guys" in engineering are obviously multitasking at unproductive levels - but it seems there's no other choice

While there are different ways to alleviate the individual symptoms above, consider a more holistic approach. Perhaps the most difficult challenge is not one of "doing" anything differently, it is "thinking" about the challenge differently. Instead of thinking about how to get more out of R&D right now, think about how to get the most you can out of the R&D investment over time.

***Once you internalize that throughput will increase when you staff projects for success - instead of by working on as many things as you can - you will start to make different choices about your projects and the resources you apply to them.***

Now what?

1. **Make sure that all consumers of R&D resources are understood** (including infrastructure projects, training, vacations etc.) in a time-phased manner (typically monthly or quarterly snapshots to some point where visibility stops in the future). Depending on how large and complex your project portfolio and organization are, you may eventually want tools beyond MS Excel to do this but I'd urge you to start by leveraging what you have and only invest in more sophisticated tools when you know what business process methodology works (the process should drive the tools, not vice versa). A key here is to keep the level of detail at an abstract enough level so it is manageable. For example, resources may just be captured by a number of people with a particular skill set instead of as named individuals.
2. **When you are planning the high priority projects, don't use the optimistic projections, use the realistic ones** based on your demonstrated capability. This is especially true if there are interdependencies like resources rolling off or new hires. If your capability has gotten better, accept that as upside.
3. **Get good at prioritizing.** Take the most important project and staff it for success through it's lifecycle (or your planning horizon). Then take the next one and do the same and so on. When you no longer have all the resources you need for the next one, draw a line there. You've reached your internal capacity. You probably still have available resources in some disciplines, just not enough to make your next project work.
4. **After your internal capacity is understood, start to look at ways of getting more done.** You'll be disappointed at how few things are above the line, start to juggle resources in your plan so you can accomplish more of the list by delaying things higher on the list (reordering the priorities), 'de-scoping' projects to alleviate critical resource bottlenecks, buying some pieces rather than doing it yourself, or partnering to leverage other resources (a way of adding additional resources). Some of these tradeoffs tend to increase the consumption of management or other resources which needs to be taken into account. Above all else, remember that the goal is to maximize the value of your entire portfolio, not to religiously stick to your initial take on priorities. Some of these tradeoffs will typically allow you to "move the line down" (get more done) and achieve a better load balancing of your resources. When you've got the portfolio looking as optimal as you can make it, draw the line since you can't fully resource the next project.
5. **You may still want to work on "below the line" items but do it with caution.** There are some resources available and they are undoubtedly the projects are important to someone. *Making business commitments about these "below the line" projects is a bad idea.* At the very least, you want to have flexibility about when and how to accomplish those projects. This is where strong leadership is needed because in effect you are telling someone "no" or "maybe" to something that used to be an automatic "yes". If you do partially staff below the line items, be strategic about it. You want to avoid sinking much investment into things that may not be feasible or you are



uncertain of. Also, if you have excess capacity in some disciplines, understand why that is and whether it's temporary or a trend.

6. **If you are hit by a new, high priority item then you need to prioritize it** in the context of the portfolio and resource constraints and redraw the line. Don't delude yourself into squeezing it in. Again, strong leadership is needed. If you need to make some instant judgments to deal with an urgent need, by all means do so and then catch up in short order with a rebalanced portfolio.
7. **The resource capacity and priority list should be revisited and updated regularly** with the time-phased resource estimates continually refined. This should be done at least quarterly with a rolling forecast. If you have a governance group that makes business judgments in overseeing the portfolio of work, this should be a primary task of theirs.

The result of this sort of disciplined approach is that over time your R&D resources will earn credibility by meeting more of their commitments and accomplish much more for the business by focusing on the most important things and getting them done as quickly as their current capability allows. It can be a challenge going through this the first time so get help if you need it. The net of *improved throughput is improved business*.

There are other benefits to this sort of process. You may get a new strategic view of what's holding your throughput back. You can deal with these bottlenecks over time through some combination of hiring, training, outsourcing or process adjustments.

Undoubtedly you can also improve your product development people and process capability to enable you to get more done more quickly at the same resource level. Treat efforts in this direction as a separate, though perhaps important, set of initiatives you may choose to undertake.

Next time the temptation is there to just spread your R&D resources thinner, think about the potential risks you're adding throughout your portfolio. Human and organizational nature often drive us to the path of least resistance which is just to say yes since if there's pain it won't be felt until much later. Take the effort to reprioritize. It can be painful but will almost always result in a better business outcome.