Q&A WITH DR. ROBERT COOPER ON ACCELERATING INNOVATION: *LESSONS LEARNED FROM THE PANDEMIC*

Resource Allocation, Capacity, Planning Best Practices

A global view of your entire product development ecosystem is critical to accelerating innovation from a position of strength and intelligence. In addition, organizations also need to rank and prioritize projects with intention – based on value, resources, and other vital factors.

There are many ways to accomplish this within an Agile-Stage-Gate methodology, meaning there are many questions on execution. The majority of questions coming out of the webinar fell into this category.

Q: Are these lessons from the pandemic even more relevant in today's economic uncertainty?

Dr. Robert Cooper:

Absolutely. Obviously getting to market quickly is more critical than ever when things are changing rapidly.

If it takes you three years to get to market or something like that, these days, the whole world's changed and all your original starting conditions and assumptions are no longer valid. Whereas, if it can get there in a year, the world may have changed a bit, but not nearly as dramatic.

For a major project one company I was working with, cut three years down to 15 months years, from business case approval to launch. So, speed is critical.

The other thing is the ability to respond fluidly to changing information – when information is coming in slower and when it keeps changing. Customer requirements, for example, or competitive situation market requirements – when they keep changing all the way through development, how do you respond to that?

The notion of a design freeze or a fixed product definition early in the process, that's obsolete. An agile approach enables you to respond very quickly to changing customer requirements.

Carrie Nauyalis, Planview® Executive In Residence:

Everything that's going on – from baby formula to gas prices, to new waves of the pandemic – it's impacting everything. Without a single source of truth showing all of your resources, all of your work, all of your product catalog, it is hard to make those quick decisions in your portfolio that will potentially drive a profit. Speed is so critical, given the financial situation that we're in.

Organizations that prioritize responsiveness to change are ***3 times more likely to exceed financial targets and strategic objectives, and 2 times more likely to exceed the delivery of innovative products and services***
– Planview State of Strategy Execution Benchmark Study

Q: What happens to product development planning and prioritization if you lose resources? Do you recommend reevaluating the product list?

Dr. Robert Cooper:

If you run out of resources, you really only have a few choices. You can continue with limited resources and cut back on every project, but that means they just take longer to get done.

Another approach is where the boss comes in and says, "Work harder, work faster, smarter."

What happens there is that people actually start working inefficiently and start making mistakes. They cut corners on too many key tasks and that's not a smart move either when the only sensible thing to do was to cut back on the number of projects. That leads to the forced ranking exercise we went through with the productivity index and scorecard done at a portfolio review.

Fairly regular – quarterly for instance – a real force ranking of projects, having the guts to draw a line and not do the projects below the line is what it takes and it takes some fortitude.

Carrie Nauyalis, Planview® Executive In Residence:

A benchmark study we sponsored revealed that leading companies do capacity planning and ranking on a continuous basis. Much of this depends on how fast-moving your products are.

If you're in life sciences, capacity planning and ranking done quarterly or monthly is fine. But if you're in CPG (consumer packaged goods) or even manufacturing, especially if you're manufacturing through an OEM, that timeline is really tight. And then you have penalties if you miss a deadline. Having a continuous review of your resource portfolio can be really powerful.

"OVER THE LAST DECADE, THE NUMBER ONE PRODUCT PORTFOLIO PAIN POINT HAS BEEN TOO MANY PROJECTS FOR RESOURCES."

– see pg. 6 of the Benchmark Study

Q: How do you get accurate plans for resource estimating? Cutting estimates because of lack of availability or inflating them to make the team look committed has created difficulties.

Dr. Robert Cooper:

I recall someone giving a talk at one of our conferences, a few years back – a man who worked for the British Government as an auditor of a new product used mostly by software developers.

He stood up in front of the audience and said there's one single truth in product development. And that truth is this: Every project leader, regardless of what country he or she is in, or what kind of development it is overestimates the benefits of their project and underestimates the cost and time to do a project.

Sometimes it's conscious and sometimes it's not. When it's conscious is where the project team is playing a few games to get the project approved. They come to the gate review with a lowball estimate of costs, sometimes to make the project look better. Sometimes they come with a highball or overestimate so estimated sales and profits look to have an upside.

It is an unfortunate phenomenon. But the way you stop that is by making project teams accountable for results.

There was an interesting example written up a few years ago of how Procter and Gamble solved that problem.

They were finding that problem in spades. People underestimated costs and times and overestimated project benefits simply to get their project approved. One person said, nobody ever got promoted in this company by having their project killed.

So, they put winning in the marketplace as the metric they were going to measure you against. That, and costs you will be accountable for year one, year two, and year three. All of that would go into your business case.

On top of winning and costs, there would be a post-launch review. Not a punishment review, but more like the post-game talk, a coach would give your kids at the end of a football or soccer game. For example, saying a few people didn't quite make the mark.

How can we improve that in the future?

The point is, that there is accountability.

The second thing I'd say is if it's an honest mistake and people are not trying to game the process because they didn't know the right answer, try this approach:

... THE WAY YOU STOP THAT IS BY MAKING PROJECT TEAMS ACCOUNTABLE FOR RESULTS

Instead of individuals estimating how long it's going to take to do a task – how many person-days, how many calendar days it will take, get the whole team working on it together.

So one person says, "Hey I can handle that in about a month," at which point everyone looks at the project and says, "No, you can't. Last time, you said that you did this or that, so let's get real."

There may be a bit of argument because they are challenging, but a group working together can usually come up with a much more reliable estimate. It also then becomes the team's plan, not that individual's plan.

It is all very scrum oriented, that part of the decision-making process done as a collective.

The last way is, and this is a little more work – is to make good data management a priority.

You can't manage what you don't measure. Some people at the post-launch reviews actually go back when they do the retrospective analysis of the project. They report on how many calendar and person-days it took to do each task. They keep a record of that query and carry it over so that you know how long it takes to do a field trial, and you know how long it takes to do a market study, etc, because you have a file of standard plans for different sized projects.

YOU CAN'T MANAGE WHAT YOU DON'T MEASURE

For example, when you take your car to the mechanic and they say, "You need a new transmission." When you ask how much that is going to cost they say, "Well, that's about the 22 hours of mechanic time and $300 for the parts."

How did he or she come up with the 22-hour standard? It is based on what it took in the last five years to replace a transmission.

If you have data like that, some companies say that's an amazing predictor. Planview software can handle that.

Carrie Nauyalis, Planview® Executive In Residence:

What I would really recommend based on what we have seen from a technology customer dealing with some innovations – instead of waiting till the retrospective and lessons learned, start tracking time every week in bulk.

Then categorize time like 40 hours spent on this or 20 hours on that, so it's not cumbersome. They do it on their mobile phone a lot of times when they're walking out of the office on Friday afternoon.

Being able to capture that historical data, then use it for future estimating is exactly how they were able to find some over and under estimations that really changed the game for them.

Dr. Robert Cooper:

If you have that capability, capture those estimates in real-time and use them immediately rather than, as you say, waiting for the end of the project. But some people aren't even trying to capture that yet because they don't do post-launch reviews. That is sort of unfortunate because a post-launch review is a really good best practice.

Q: How do I sort projects to rank them properly? Do I put them in buckets by rigor level of execution, by the department that will execute the project, or by investment cost? How do you define what the classification is?

Dr. Robert Cooper:

Different companies have different definitions.

I just saw the industrial research institute has come out with this report that shows a breakdown of resources spent by companies on different types of projects. They go from innovations that are new to the market, down to major new products, new product lines, extensions modifications, and product improvements, all the way through down to cost reductions.

In that sense, it would be project type, and that is the most common.

But you're going to have to come up with your project types. 3M has six classes of projects that range basically from major innovations to not innovative at all.

You can also have another dimension called market segment or markets. Some people do this in a pie chart format by market segments and some people do it by product line. Some people do it by geography Asia, Pacific, Americas, Europe, Middle East.

Some people even do it by technologies, but the most frequent ones are by project type from innovation down to not so innovative, by product line, and by market.

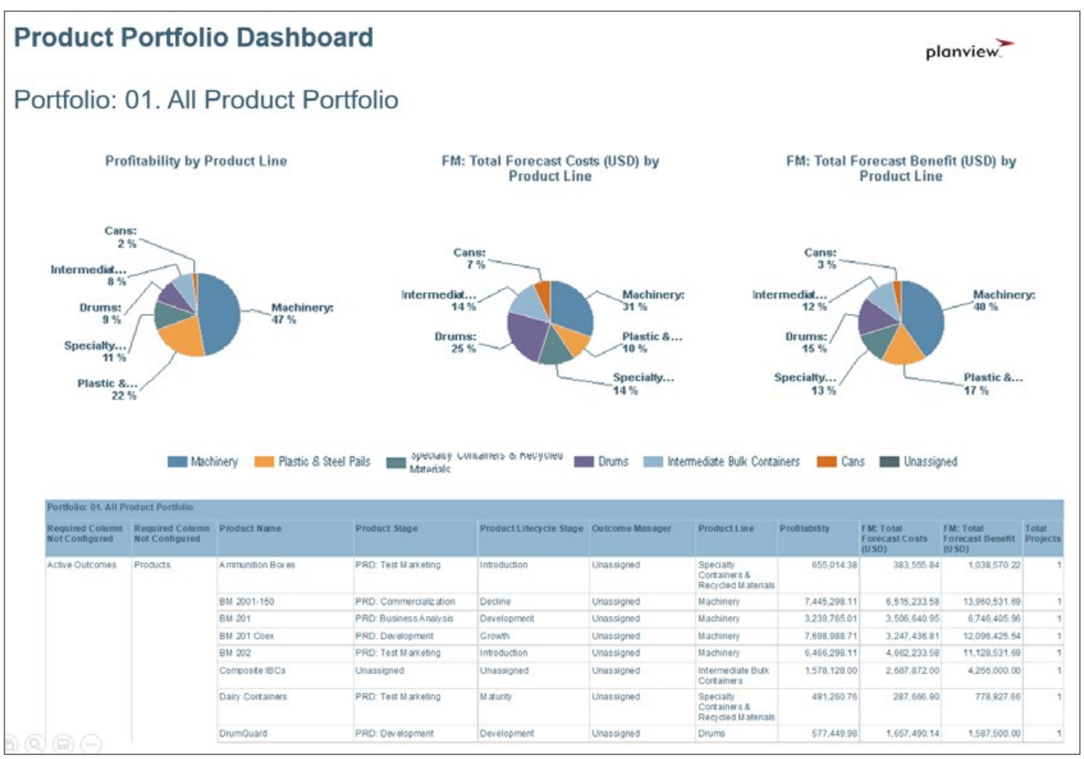
Don't use more than three dimensions, that gets too complicated.

Once they are bucketed they'll usually show pie diagrams at portfolio reviews and then discuss whether this is the right or wrong mix, balancing within each bucket. They also classify projects by bucket so you end up with the innovations in one bucket and the small projects in another. Then they do force ranking within buckets.

Carrie Nauyalis, Planview® Executive In Residence:

And sometimes one of the ones you mentioned earlier was size. It is another one Planview has that's stolen out of your book.

Planview also has the pie charts you're talking about. If you've got a portfolio with all of the products or sizes down, then you can pivot on any one of those things.



Portfolio: 01. All Product Portfolio

Required Column Not Configured	Required Column Not Configured	Product Name	Product Stage	Product Lifecycle Stage	Outcome Manager	Product Line	Profitability	FM: Total Forecast Costs (USD)	FM: Total Forecast Benefit (USD)	Total Projects
Active Outcomes	Products	Ammunition Boxes	PRD: Test Marketing	Introduction	Unassigned	Specialty Containers & Recycled Materials	655,014.38	383,555.84	1,038,570.22	1
		BM 2001-150	PRD: Commercialization	Decline	Unassigned	Machinery	7,445,298.11	6,515,233.58	13,960,531.69	1
		BM 201	PRD: Business Analysis	Development	Unassigned	Machinery	3,239,765.01	3,506,640.95	6,746,405.96	1
		BM 201 Coex	PRD: Development	Growth	Unassigned	Machinery	7,698,988.71	3,247,436.81	12,096,425.54	1
		BM 202	PRD: Test Marketing	Introduction	Unassigned	Machinery	6,466,298.11	4,662,233.58	11,128,531.69	1
		Composite IBCs	Unassigned	Unassigned	Unassigned	Intermediate Bulk Containers	1,578,128.00	2,687,872.00	4,266,000.00	1
		Dairy Containers	PRD: Test Marketing	Maturity	Unassigned	Specialty Containers & Recycled Materials	491,260.76	287,666.90	778,927.66	1
		DrumGuard	PRD: Development	Development	Unassigned	Drums	577,449.98	1,657,490.14	1,587,500.00	1

Visualizing the segmentation of products is just one way to tell if you are making the best use of resources.

For instance, there is a feature that segments the number of projects by product line, shows how many people are on those projects, and how much revenue is projected. All that tells such a phenomenal story that will kick people back in their chairs to really think, "Okay so we're using 80% of our resources to drive 20% of the revenue? Let's shift!"

Dr. Robert Cooper:

That is powerful because then you can start to actually visualize productivity. If 80% of our projects are tactical and they consume 80% of the resources, but they're only generating 20% of the revenue. What the hell is going on here?

Why are we spending 80% on the least productive projects? It creates good discussion when you see those pie charts by bucket.

Once you have buckets, then you can classify your projects by bucket and force rank them within that bucket. The nice thing about that is you're comparing apples to apples.

If you put everything in one bucket you have big projects with little projects, innovations with not innovations. You're trying to compare everything against each other and it's almost impossible.

By putting like projects into one bucket you can at least compare them against each other. You can then have all the small projects and/or other buckets that use quite a different criterion for ranking.

For example, with cost reduction projects all in one bucket, we probably wouldn't look at the net present value. You might look at something like that how many dollars that project will save over two years divided by the number of person-days it takes to complete the project. This is something simple, but a totally different metric than what you'd use for innovations.

Just like if you were talking about financial portfolios, if we had stocks, bonds, and real estate, you'd have them in three different buckets. You would then rank order them and compare stocks against stocks, not stocks against real estate because you know you're using different criteria. That's why strategic buckets make so much sense for force ranking of projects, as well as the issue of mix and balance.

Carrie Nauyalis, Planview® Executive In Residence:

If you don't have that kind of mix and break it out, your innovations are never going to get approved because they're too high risk. But if you don't innovate, you're not moving the company forward.

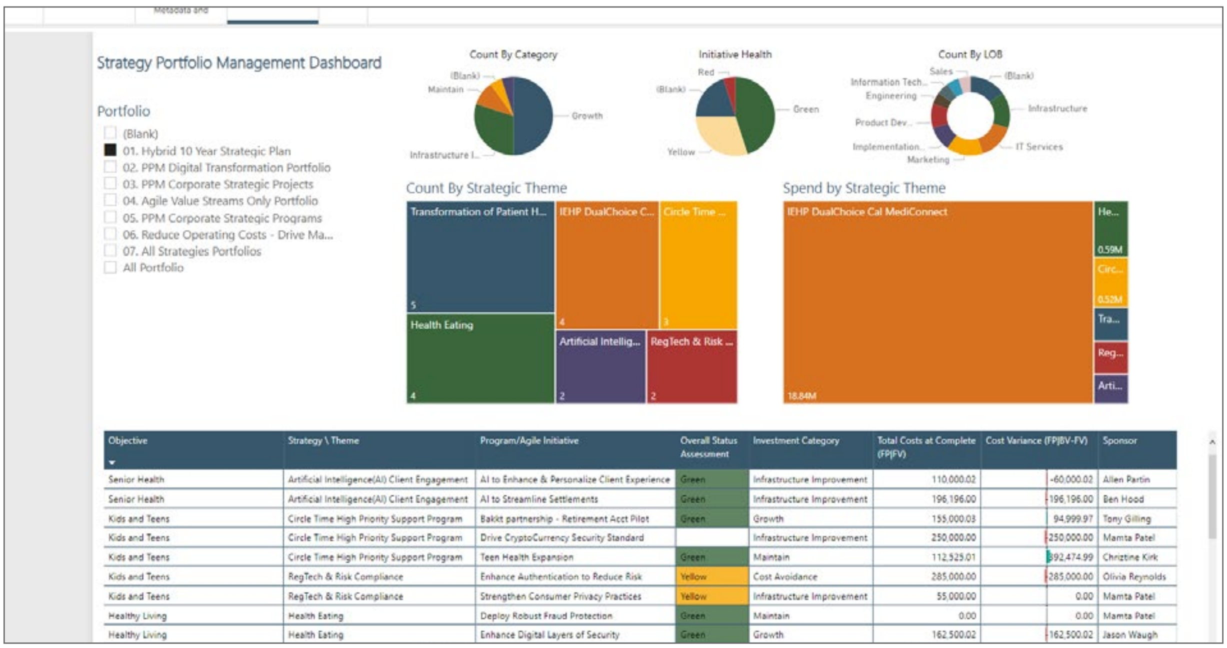
Q: How do you begin to advise leadership on prioritization? How do you get their buy-in?

Dr. Robert Cooper:

The first issue is if you're already having portfolio review meetings, perhaps without prioritization – just a bunch of guys sitting around talking about projects – I think it's important for somebody who is managing that meeting or hosting that meeting to suddenly start displaying some very useful database charts on the screen. Focus that discussion on the data, rather than the normal chit-chat that just discusses the various projects.

A portfolio review should not be a big meeting. They should not be sitting around talking about the technical progress of projects.

They should be focused on the portfolio mix. The mix of the portfolio, the prioritization, etc. So if you're already having those meetings with the senior folks there it's not a huge change to introduce some new slides or graphs or charts.



A global view of your portfolio mmyix is incredibly useful in ranking and prioritizing projects by categories.

If you don't have those meetings with senior people, then perhaps one of the things you can do is get them to watch our webinar or share with them my article on accelerating innovation.

Then maybe two or three of you sit down with the boss or bosses and make a pitch for the need to do this.

Hopefully, we've given you some pretty good reasons why portfolio management is critical and why it is in such bad shape in so many companies.

We've given you quite a bit of data and some anecdotal evidence as well, so, hopefully, you can take some of our slides and charts and make a pitch that this is a critical area that senior management must deal with.

If they don't, then you are going to continue to be late to market and take forever to do projects. People will cut corners on too many projects, and sometimes some very questionable projects and pipelines. So, at some point, somebody's got to sell senior management on prioritization.

By the way, I always found that two or three people are better than one. Strengthen in numbers.

ABOUT OUR EXPERTS

Dr. Robert G. Cooper

Creator of the Stage-Gate® Process

BOB COOPER, One of the most influential innovation thought-leaders in the business world today. He pioneered many ground-breaking discoveries in product innovation, including the Stage-Gate® Idea-to-Launch Process, now implemented by almost 80% of North American companies. Having spent 40+ years studying the practices and pitfalls of 3000+ new product projects in thousands of companies, he has assembled the world's most comprehensive research in the field of product innovation management.

A prolific author, Dr. Cooper has published 130+ academic articles and thirteen books, including the best-selling Winning at New Products, now in its 5th edition. He is the recipient of numerous prestigious awards including the Crawford Fellow from the Product Development and Management Association (PDMA) and the Maurice Holland Award from the Industrial Research Institute (IRI). He is also Professor Emeritus of Marketing and Technology Management at the DeGroote School of Business at McMaster University, and a Distinguished Fellow at the Institute for the Study. (From: https://www.stage-gate.com/our-founders/)

Carrie Nauyalis

Innovation and NPD (New Product Development) Executive in Residence at Planview

Carrie is passionate about being an overall evangelist and thought leader in the product development and portfolio management industry. She is an active speaker, MBA guest lecturer, blogger, and vlogger on all things PPM (Project Portfolio Management), with warm places in her heart for Stage-Gate, IoT (Internet of Things), blockchain, and agile.

In Carrie's 20-plus years with Planview, she's held various positions including global consulting and product management. In her current position, she works to establish partnerships, ensuring customers get the greatest ROI out of their Planview investment, develop go-to-market strategies, and deliver enhancement ideas into Planview Product Management based on market trends.

Prior to Planview, Carrie held multiple systems engineering positions with Emerson Process. She earned her bachelor's degree in Communication from Truman State. Occasionally, she escapes her home and favorite city of Austin, Texas traveling to exotic destinations like Egypt, Zimbabwe, Malaysia, and Dubai.

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