HOW DO YOU KNOW YOUR PORTFOLIO PROCESS IS ADDING VALUE?



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In 1998, Rob Arnold, Executive Vice President, teamed with some colleagues to publish an article in the *Harvard Business Review* that highlighted the practical results obtained by applying modern R&D portfolio thinking to SmithKline Beecham's late-stage assets. SB publicly claimed that the review process had added \$2.6 billion in value to the corporation. That team worked with most major pharma companies to apply similar principles in the 1990s, and huge value was unlocked using superior analytic and people process approaches.

These approaches were developed to address the most significant challenge of the time: too many assets and not enough investment available. Industry challenges are different today, and more time is spent locating innovative assets that can pass the required hurdles for access and pricing. Today's leaders bring a more marketing-focused background compared to the scientists of the '90s. Approaches to managing the R&D portfolio have evolved and transformed. In a recent review project, we interviewed representatives of leading companies to understand more about today's processes and their value add.

We interviewed at length six senior participants in the R&D portfolio prioritization process, with most of them leading or having recently led their company's portfolio process teams. We included representatives from eight Western and Japanese pharma companies, from both specialty and general pharma. The breadth of their initial responses to qualitative questioning illustrates the different perspectives companies hold on the role and purpose of portfolio management.

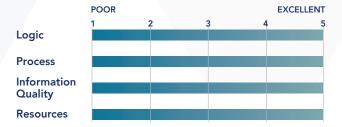
Once/twice/four times per year	Frequency of application	Applied and updated whenever there is a decision to be made	
More qualitative: quant is not "accurate" and leads to hard edges	Nature of metrics	Mostly quantitative: the numbers don't lie	
Distributed: most efficient way of soliciting input	Distributed versus interview	Interview: want to be sure respondent is fully engaged	
Hard to say: plenty of wiggle room for decision-makers	Congruence with decisions	Mostly congruent unless there is a strategic intrusion	
People with the best understanding will naturally be most invested in success	Dealing with bias	Need to assure a "uniform level of optimism" via questioning	
Quality is good enough for the investment that we can make	Quality and convenience	This is a vital process: we do what it takes to get quality	
Built up from Excel and add-ons as well as industry analogs	Role of software/data	Large custom program looking to leverage AI, RWE, industry data	

Purpose

Assessing the portfolio versus its objectives is still the key objective of the regular portfolio review, although the results are put to different uses, dictating the specific approaches. Decision-makers want to understand the progress being made by the assets and any rebalancing actions that should be taken. The review schedule often provides results shortly before the release of updates to analysts or annual reporting.

One of our key findings over time is that companies end up with the portfolio processes they deserve. Typically, the executive decision-makers are the customers of the process, and it is their demands that will shape it. Thus, differences

in the process can be tracked to different needs, cultures and situations of different companies and their decision-makers. Below we illustrate several requirements for success in R&D portfolio management processes:



Where you score on each requirement depends largely on the role portfolio management plays in your organization. Some companies invest heavily and ensure there is a detailed pedigree for every assessment; put effort into debiasing inputs; and use it as the general "source of truth" for decision-making, updating it as and when required and resourcing it as needed in terms of staff and software. Others find it a challenge to maintain a quantitative perspective and score assets on scales, distributing data input sheets and believing that the process cannot be perfected (and "good enough" meets their needs), normally by using Excel and its extensions. Most companies feel there is room for improvement in their information quality yet feel their resourcing and their process are good. This suggests issues around bias, detail and comprehensiveness that may compromise information quality to achieve a leaner staff and less intrusive process.

"I think we have plenty of good information. I don't think we're lacking information. It's synthesis, knowing what to include that's challenging."

— Head of Portfolio Management, Major Pharma

"People don't like metrics that don't reflect their programs in the brightest light."

— Head of Portfolio Management, Japanese Pharma

Requirement 1: Logic

While the overall logic of portfolio prioritization was developed 25 years ago, the specific logic within a company can shift and redirect itself to meet new goals of new leaders, sometimes creating challenges. As one interviewee said: "This year again [there's]

a change in leadership, change in view. We said, 'the criteria we're assigning are a bit arbitrary; is it a two, is it a three?' [laughs] Then next thing you know, we're eliminating programs." Whatever logic is used, it is vital that process participants believe the results of the process will form the basis for decision-making; otherwise, they will not see any purpose in participating fully.

Requirement 2: Process

When considering the process's efficiency, the most important design criterion is that it should be decision focused. It should provide just enough information to make the decisions, and no more. Any temptation to piggyback additional purposes and data collection or project management should be resisted. This means including the right people in all roles, the right information and logic, and alternatives where practical. The frame must be one of decision-making to improve value, as a bureaucratic process that is viewed as a part of administrative necessity will not achieve clarity.

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We struggle with the process...because there's so much room for error. A one to three scale is very broad for each of these. Then it's people's opinions..., so the reliability of this is just not very scientific...we waver back and forth between [whether we are] going to just draw a hard line in the sand once a number comes out and say: "bright line" and remove this? It would be great if we did that because that makes the process quite a bit more efficient and people will take it more seriously."

— Head of Portfolio Management, Major Specialty Pharma

Requirement 3: Information Quality

The biggest issue we identified in information quality was the intrinsic bias influencing essential assessments. The people who know the most about an asset – the inventors, promoters and developers – are often invested in its success or that of their function. When they are asked questions about an asset's prospects, they tend to exaggerate. This bias is often not conscious, but it is pervasive; and assessment techniques used to understand and value the asset must take it into account, especially on sensitive judgments. Another concern was the lack of

external expertise or validation – depending too much on judgments from those close to the assets.

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Requirement 4: Resources

Today's portfolios are more complex and heterogeneous than ever, with new cell therapies that are challenging to evaluate, rare diseases, trade-offs between innovation and cost reduction, and many other complicating factors. Achieving a level playing field of evaluation for the assets requires experts from inside and outside the company, quality research, careful assessments, consistent modelling, clear communication, and effective facilitation. Asset evaluation and portfolio recommendations must have pedigrees that have been recorded and can be traced back in order to give decision-makers confidence in the process. Doing all this with quality requires adequate resourcing for the level of detail a company wishes to produce.

"I don't think there's a problem with FTEs but maybe there's an issue with the level of experience."

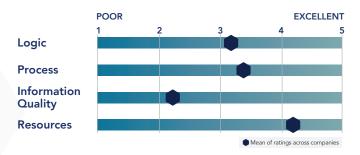
— Head of Portfolio Management, Major Pharma

"It's been lean, I will say... It would be nice to have more headcount..."

— Head of Portfolio Management, Japanese Pharma

The requirements we identified interest students of decision quality and are helpful for developing an improvement plan. When we asked our panel to rate their company's processes on these requirements, they highlighted various issues in coming to a conclusion, which varied widely. Interestingly, they generally believed that they were adequately resourced, leading us to seek elsewhere for root causes of poor performance in other requirements.

However, most executives want to see why these requirements matter in their operating lives and what can go wrong if you don't pay attention to them. Below we have mapped the requirements we have discussed against metrics they are likely to influence.



No amount of process efficiency and full resourcing can make up for poor quality inputs. At the same time, achieving quality inputs in a world of ever-increasing portfolio complexity requires investment and steady application to learn from experience and build on a strong foundation. The extent to which issues can be addressed and processes improved comes back to the demands of executive decision-makers and how much they view the portfolio process as fundamental to their decisions. Companies think differently about the role of portfolio management, and some demand a broad and deep process to provide a basis for confident choices. Others prefer a more informal approach, rely on individual judgement and have a skeptical view of asset evaluation. These perspectives shape their companies' cultures.

Determining which perspective is the most productive inevitably leads to discussing the process's value add

	Inaccuracy	Overruns	Rework	Motivation	Decision Quality
Logic flaws	Ø		Ø	Ø	
Process inefficiencies	⊘		⊘		
Biases and motivational issues	Ø	⊘		⊘	
Resourcing gaps			⊘		
			Big Issue	Some Effect	No Effect

compared to a heuristic approach by management – what existed prior to the late '90s. Wouldn't it be helpful, then, to have some sense of what value the process contributes – effectively the value of the post-allocation portfolio minus the value of the pre-allocation portfolio? No one from our panel was able to provide an estimate of the value add of their process, and, in fact, they explained they had no way to measure it.

Applying the appropriate tools and processes within the overall portfolio review can provide trustworthy valuations to form the basis of quality decisions as well as offering evidence of the process's value added. However, ensuring a consistent and reliable process requires significant investment and application, including time from experts,

Do I believe the results of the process? It's more a process for Portfolio value should increase getting alignment than the post reallocation "right" answer The bosses will get their Attempts to ignore/bias the process should be called out way anyway Options/alternatives should There aren't that many tough be included to create degrees decisions to be made of freedom Occasional clarity is sufficient -We must stay on top of it doesn't change that much optimizing the portfolio

assessors and decision-makers. To achieve our quality goals without opening a resource black hole, companies are applying innovative ideas to developing artificial intelligence that can identify relevant analogs, challenge estimates of probabilities or market share achievement, and search vast databases for relevant insight and comparison.

To make this approach effective, data produced by the process must be stored in accessible structures. Libraries of analogs and industry data must be available for search and comparison. Software that analyses, displays and

"We haven't found a good way to measure what effectively comes down to a productivity of your prioritization methodology..."

— Head of Portfolio Management, Leading Pharma

"That is a question that we will continue to debate and probably never arrive at a satisfactory answer..."

— Head of Portfolio Management, Japanese Pharma

"That's a good question. I don't know if we have specific KPIs on quality of decision..."

— Head of Portfolio Management, Major Pharma

"We really haven't made critical decisions based on this portfolio review. It's more of a guideline..."

— Head of Portfolio Management, Major Specialty Pharma

"We also use artificial intelligence... There's a number of databases that are Al-driven numerics and that's a direction we're starting to go into."

— Head of Portfolio Management, Leading Pharma

communicates insights and findings effectively is vital to maintain focus on the most important decision inputs. Standard deliverables create familiarity and trust with decision-makers.

Software can also play a role in making processes more efficient. Project management, data analysis, recording and structuring data can all be accomplished more swiftly and with lower error by the right software. They can ensure that the basis is available to look at assets at any time with a few updates, even if it is not an "official" review cycle.



What's more subtle is the changes in, let's say, competitive landscape. Pick a complicated one like [indication]. Constantly competitors are coming and going and there's data.

There's also this stream of work in terms of our [process] group that will pick a therapeutic area and say, 'Let's do a quick deep dive this month on [indication] and see if our programs are really where we think they are versus our competition. Should we be investing more?

Should we start acquiring more assets in this area as well?'"

— Head of Portfolio Management, Leading Pharma

Finally, the process will not be effective if it is not led and facilitated by the right people. A rare mix of energy, creativity, analytical rigor and application is required in the team, who have to know what to do and what to invent if required. The demands made on them ensure that they can maintain morale only if they believe that what they are doing truly provides the basis for the decisions made by executives – which brings us back to the central issue of having a process that delivers measurable value to the corporation. Companies get the R&D portfolio processes they deserve. Are you confident yours is adding value?









