

# PRODUCT DEVELOPMENT

## BEST PRACTICES REPORT

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### LINKING CORPORATE STRATEGY TO R&D: A CONVERSATION WITH BRAD GOLDENSE

**BPR:** *What was some of your thinking process behind the creation of the metric linking strategy to R&D?*

**GOLDENSE:** It's been in the back of my mind for nearly 20 years at this point. In the early 1980s, [I worked with a consulting firm] that was among the first to link technology to strategy. Even in information systems – linking infrastructure technology to strategy – it was clear to everybody that just trying to *achieve* that linkage is very elusive...to quantify the *degree* of linkage is even more elusive. I was also trained in formal strategic planning methods. The idea was to create a strategic plan...and then a synthesized version of the strategic plan in order to best direct IT resources in support of it. I noticed that there was often a qualitative linkage but there was never a number available to quantify it. I also noticed in working in various organizations that everyone from top to bottom would say “*we're linked to corporate strategy,*” but it was all more or less vaporware when you asked them to demonstrate it.

Also, being in the business of trying to improve the effectiveness and efficiency of R&D and having had metrics in R&D for years, I never saw this elusive R&D linkage metric. We would measure many things – projects, functional productivity, etc. – but we couldn't measure *effectiveness*: are all of these things we are doing to make R&D as efficient as possible really making a difference?

**BPR:** *But I can hear someone saying, “we already have a metric to link R&D to corporate strategy: it's ‘% budget for R&D’ or ‘R&D spending as a % of Revenue.’” Why is your metric an improvement on these existing measures?*

**GOLDENSE:** ‘Percent budget spent on R&D’ does not really establish a linkage to strategy. There's some semblance of linkage, because, once you've determined the strategy you then allocate funds back to the different business functions so that they would best support the strategy. But these are not so much statements of linkage but statements of where you *think* you can get the most ‘bang for the buck.’ But these [measures] don't get at the issue of whether you actually *get* the bang for the buck.

The reason the linkage metric is an improvement is that you take the perspective of the corporate metrics portfolio – this is what the senior management team says are the most important measures that judge success. Then the extent to which those measures are also shared by R&D provides a much more traceable statement of whether or not we have *achieved* success. If the R&D measures are also in the corporate measures, and if the corporate measures do not hit targets, then we did not achieve success regardless of how much we allocated for R&D as a percent of sales. It gets closer to measuring actual results rather than hoped-for results.

It's important to note that there are a lot of imperfections in this metric, but at the same time there are a lot of imperfections in the institutionalized “R&D as a Percent of Sales” metric. For example, a firm might say that it has 7.8% of sales allocated to R&D. As far as I'm concerned it could be as much as twice that number because the figure is usually just the engineering budget. But we know that manufacturing engineers, test engineers, reliability engineers, half of the purchasing organization, material and procurement engineers, and [as much as] half of the marketing organization is all really R&D...but the accounting systems have not kept up with what new product development really is. [If you have a company where] 60-70% of the revenues are due to product released in the last three years, then you know that the cross-functions are spending a very large amount of their time on new product development...and none of that is in the R&D budget number in most companies.

**BPR:** *Why is it that firms often have the mentality to manage R&D like a cost center, and how can they move beyond it?*

**GOLDENSE:** Functions will measure the things on which they are rewarded. The Finance department gets rewarded every year for managing functions to budget. That is their contribution in the corporation. In the absence of a function taking responsibility for itself and its own contribution to the organization, basically what you are left with is Finance's metrics... The R&D function needs to take a more active role – without changing the way Finance views the world – for coming up with metrics in addition to the budget control metrics. These [budget control] metrics do not get at the opportunity to make money by investing a little bit more – even if it goes over budget, assuming that we have the downstream or cross-functional capacity to produce the new invention within existing capacity levels. Absent step-function increases in available capacity, the managing-to-cost mentality... is probably off-target. Within available capacity, before you hit a next step-function increase, one really ought to increase *R&D capacity* – as long as one has *downstream capacity* to handle the result of that investment.

**BPR:** *Many firms may not have a defined, well-known, clearly communicated set of R&D metrics and corporate level metrics. What would you recommend to these firms in terms of first steps toward building the linkage you're talking about?*

**GOLDENSE:** In fact, GGI's 2000 Metrics Survey found that only 36% of the companies had a known, stated set of corporate metrics and only 37% had a stated set of R&D metrics. So two-thirds [of our sample] do not really have a defined set of metrics [at these two levels]. When you added those respondents who could derive a set of metrics, we found that they were twice as numerous as the folks who had a known, stated set.

For those folks who do not have a stated set, I would say that if this is the first time you've done it [i.e. developed a set of defined metrics] do not expect to have immediate success. Don't try to embed a first cut at a corporate metrics set in all your information systems. Come up with a set and try it informally for a while until everyone has internalized what these metrics are. That will probably take two to four quarters. Also, leave yourself in a position where you can admit that you're first set may not have been the right set. This applies to both the corporate set and the R&D set as well.

The second thing is that, unfortunately, business is not simple. Represent[ing] a far flung global empire with a handful of measures may be useful in the board room and for communicating with Wall Street, but having a few highly complex, highly aggregated measures do not achieve the communication that's necessary to the mass of people in your company. You need to create measures in a way that people can relate to them and internalize them and feel like they can impact them. If each function has six to ten measures to measure itself, and there are ten or twelve functions in the company, that's 100 measures.

Then there are another 20 that are aggregated measures that usually only the senior managers can internalize because they are complex and composed of many pieces. You might end up with as many as 125 measures. If you want to empower the workforce, it is important for them to see their metrics, which are functional metrics, also present with that corporate metrics set.

Finally, in my view, the imperfections associated with any single measure increase corporate risk when you've only got five metrics measuring a corporation or, for that matter, an R&D function. You're better off with more measures – that people can specifically relate to – than a few simple ones. Complexity will probably get you more results than simplicity in this area. A greater number of simple metrics may get you more results than a few complex metrics because of the ability of most people in the organization to digest them and feel like they own them...and can act on them.<sup>P<sub>D</sub></sup>

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