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Making R&D work better

Improving R&D Results: Count on the Uncountable

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In managing R&D to achieve business results, it's easy to see how countable goals, such as new product specifications and development cost, impact ROI. But to get the highest return from your R&D effort, take a look at some performance factors you may be overlooking because they seem uncountable. How would your business improve if your R&D program were faster and more agile in bringing innovative products to market with dependable schedules?

For example, what if your release dates never slipped? First, you'd avoid disappointing the customers who trusted your delivery promises. And more importantly, as your reputation for dependable delivery grew, you'd be able to lock customers in sooner, getting even farther ahead of your competitors.

R&D goals fall into five categories, or *performance dimensions*: Product attributes, development cost, response time, R&D delivery, and innovation. Not all of these are easily quantified, but they all impact business results. Don't make the mistake of managing only the countable dimensions.

Product attributes and development cost are the dimensions that are easiest to quantify and the first ones that get attention when companies focus on business results. Product attributes are the design goals for a new product, including specifications, features, and quality, as well as manufacturing and support costs. Estimating the impact of product attributes on revenue and profit is straightforward.

Development cost is, of course, the easiest dimension to quantify. But it's important to realize that reducing cost does not always increase ROI: If reducing cost means that you sacrifice performance in other dimensions, ROI can suffer. Companies focused exclusively on cost and efficiency often under staff projects, leading to slow and unreliable schedules.

So now you're developing competitive products at reasonable cost—where else can you turn to improve R&D performance? Take a look at the other dimensions.

Don't make the mistake of managing only the countable dimensions.

Response time has a far-reaching impact on business results because each product opportunity has a life cycle that is fixed in absolute time. Factors outside of your control, such as new technologies, competitive developments, or shifting customer needs, determine when a market need emerges and when the opportunity is no longer viable.

If you can recognize a need, define a product, and release it sooner in the opportunity life cycle, your product's sales will ramp faster to higher levels and enjoy longer life to achieve much higher returns. Fast response time also feeds a self-reinforcing cycle that makes your company agile in the market, since completing one project sooner means you can respond more quickly to the next opportunity.

Overview

Do you know a small, growing company – perhaps yours? – that has to fill the same key position over and over again?

One after another, a potential new hire's skills and experience look so good on paper, but his/her first few weeks on the job are very disappointing, and the company's whole operation seems to stumble and slow down.

The underlying cause could be "the culture issue."

OK, response time has a big impact on R&D performance, but aren't your new product teams already working as fast as they can? In fact, most companies have two ways they can cut response time: First, recognize opportunities sooner; then prioritize and apply more resources to fewer projects. If response time is important, take a look at opportunity scouting and project resources.

R&D delivery performance means reliable release dates and dependable early product shipments, which impact business results by building customer confidence in your new products. Again, this effect is hard to count, but powerful. If you've resigned yourself to living with chronic schedule slips and painful early product shipments, ask your sales force what their jobs would be like if suddenly you could release and ship new products on schedule. They wouldn't have to deal with irate customers and could lock sales in sooner because customers would believe your delivery promises.

Above all, beware of symptomatic cures for fundamental problems.

If you can combine dependable R&D delivery with fast response time, you gain a compound advantage. You can spot an opportunity sooner, release a solution more quickly, and lock customers in even before you release the product. This combination leaves slower, less agile competitors hopelessly behind.

If your R&D delivery could be better, take a look at the most common limitations – spreading resources too thinly across too many projects and discovering problems or new requirements late in a project.

Innovation is a critical business driver for all technology companies, but as a dimension of R&D performance, it's not as straightforward as you'd think. Innovation is a disorderly force that conflicts with the other performance dimensions. An innovative new product technology, for example, can make schedules long and unreliable. If not balanced against other R&D goals, runaway innovation can devastate R&D returns.

Because innovation is fundamentally chaotic, companies often implement management practices intended to limit the chaos, with the effect of inhibiting innovation. An excessive focus on achieving established plans, for example, can lead to rigidly evaluating people against year-old objectives, which discourages unexpected innovations.

If you feel that a higher level of innovation would improve your business results, look for ways to update management practices to increase your tolerance for chaotic new ideas.

Improving R&D performance isn't easy. You have to look beyond countable goals to factors that are harder to measure, but nonetheless have significant impact on business results. This takes not only a sensitivity to uncountable factors but also good organizational communications to manage them effectively.

Above all, beware of symptomatic cures for fundamental problems. If you simply apply management pressure to shorten schedules, for example, you may get unrealistic plans that can't be met or find teams cutting corners to finish the project sooner. To make lasting improvements, you have to find the fundamental causes that limit performance and correct them.

(For further reading, see *Leading Product Innovation* by Marvin L. Patterson and John A. Fenoglio, published by John Wiley and Sons)