

TAKING THE MEASURE OF INNOVATION

Don't overlook the insight that two simple metrics can yield about the effectiveness of your R&D spending.

by Guttorm Aase, Erik Roth, and Sri Swaminathan

You've probably heard the old joke about the two economists who saw \$20 on the sidewalk. "Look," exclaimed the first economist, "a \$20 bill!" "It can't be," the other economist answered. "If it were a \$20 bill, someone would have already picked it up."

We were reminded of this story when we began to notice a pair of innovation metrics that seemed so intuitive that we assumed they must have been conspicuously applied and rejected before. So far, however, we've found

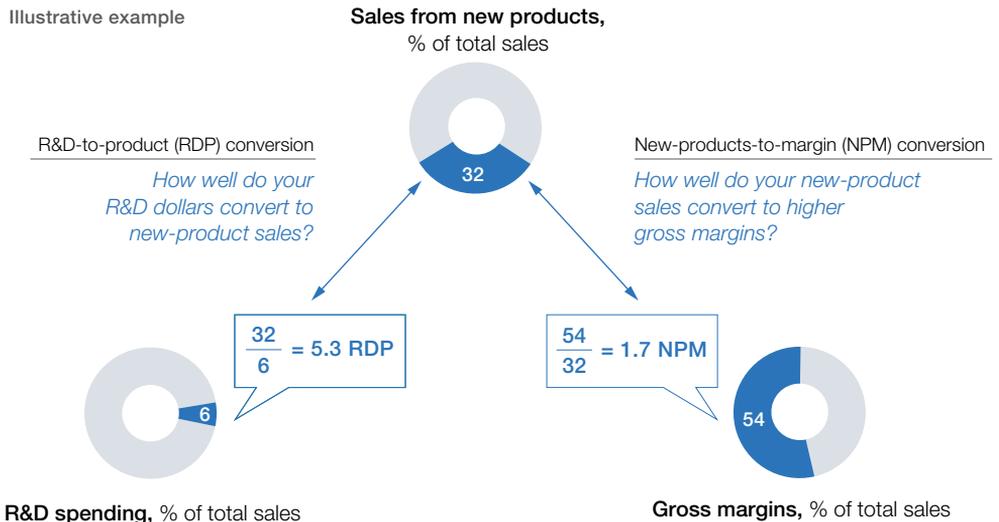
no indication of widespread use—and a reasonable amount of evidence suggesting that, at least for most industries, the measurements work.

We call these indicators R&D conversion metrics: R&D-to-product (RDP) conversion and new-products-to-margin (NPM) conversion. Their core components—gross margin, R&D, and sales from new products—are not new, but combining them can reveal fresh insight on the relative innovation performance of business units, within

Exhibit 1

Two metrics combine R&D spending, sales from new products, and gross margin to shed light on **relative innovation performance**.

Illustrative example



an organization and relative to external peers (Exhibit 1). The first metric, RDP, is computed by taking the ratio of R&D spend (as a percentage of sales) to sales from new products. This allows organizations to track the efficacy with which R&D dollars translate into new-product sales. The second metric, NPM, takes the ratio of gross margin percentage to sales from new products, which provides an indication of the contribution that new-product sales make to margin uplift.

Notably, these metrics can be gauged outside in, making them ideal for benchmarking. They also apply on the portfolio level, where the net effect of individual project investments reflects the results as a whole. That broader perspective accords with how senior executives and investors typically consider innovation performance. It's not the most granular way to consider project value creation, and it doesn't aspire to be. In seeking the ideal metric, one should not let the perfect be the enemy of the good. When a business can convert a high rate of R&D dollars to new products, and when its new products flow through to higher gross margins, good things will happen.

As we'd expect, the R&D conversion metrics show that higher spend does not inevitably translate to stronger performance. That should come as no surprise to seasoned executives and analysts. Rather, when we benchmarked companies within select industries,

results varied markedly. The R&D conversion metrics also demonstrate—sometimes strikingly—where some organizations are falling short and where opportunities for improvement may be found (Exhibit 2). Not every company that scores strongly on RDP is able to follow through to higher margins, and a company scoring above-median performance on NPM may underperform in RDP.

While the R&D conversion metrics are useful, context is essential. Benchmarking must be conducted against comparable firms—pure plays versus pure plays, diversified companies against companies with multiple business lines, and product-to-product comparisons with cycle times that are as close in duration as possible. These metrics also work best in industries where product turnover is higher and the incremental effect of innovation is both more immediate and more critical to the business model. For example, in specialty chemicals and consumer goods, two industries with rapid innovation cycles, the three-year average in gross margins correlates strongly with the five-year average of new-product sales. In industries with markedly longer cycles, such as pharmaceuticals and agribusiness, the r-squareds are lower.

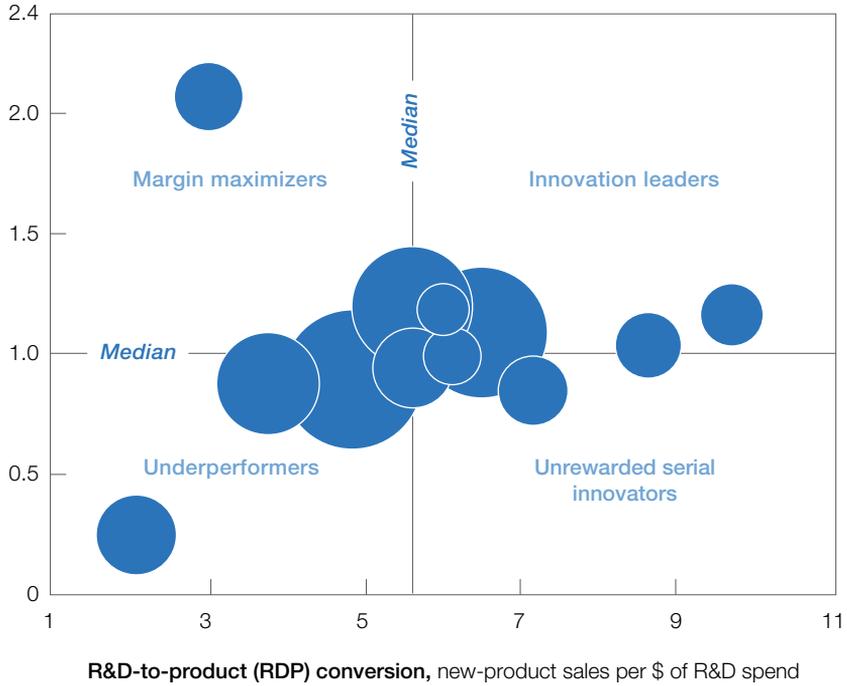
But in a real sense, those exceptions help prove the rule: the more that innovation matters with immediacy, the more insight is to be gained by tracking your innovation efforts. In our experience,

Exhibit 2

Taken together, the R&D conversion metrics can help identify favorable and unfavorable innovation-performance outliers.

New-products-to-margin (NPM) conversion,
gross margin per \$ of new-product sales

○ Size of bubble = relative R&D spending as % of sales



Source: Capital IQ; company investor presentations

many companies spend too much time looking inward at measures of activity (for example, number of patents, or progress of ideas through a pipeline), and not enough scrutinizing the returns on innovation. Creating value is the name of the game, and these R&D conversion metrics help you keep score. (Q)

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