

PRODUCT DEVELOPMENT

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PORTFOLIO MANAGEMENT: PROGRESS AND OPPORTUNITIES

The 2000 R&D Metrics Survey conducted by Goldense Group, Inc. (GGI) in association with The Management Roundtable (see “New Study Examines Links Between R&D, Corporate Metrics,” page 7 above) indicates that industry is making progress, albeit somewhat unevenly, in managing R&D investments. The following commentary summarizes and analyzes these findings at a higher level of abstraction.

Clear Progress

It is clear that leading companies are adopting improved R&D management and measurement techniques at a rapid pace. Leading companies are well on their way to systematic product evaluation and selection, product review and portfolio management practices. Processes have been defined and institutionalized for each of these activities making them repeatable on a consistent basis. Measurements are in place for these maturing processes. Prior to 1990, phased product development processes were used by only a few companies. “Two-Step” product definition and selection processes were used by even fewer companies. 63% of companies in the 2000 metrics survey indicate that they now use at least a “Two-Step” process. Further, these companies have measures of how many products/projects did not go forward at each of the two selection steps and are able to calculate their net approval rates. This is huge progress for R&D organizations that for decades have resisted formal processes and measures on the belief that they stifle opportunity and creativity.

Another great example of progress is the adoption of the Platform-Derivative-Extension Model of architecting new products. There is a good deal of disagreement as to which industry first introduced and popularized platform and derivative design and development practices. However, had GGI surveyed this area in 1990, only a few companies in a small number of industries would have reported familiarity with this architectural development concept. In GGI’s survey, almost half (48%) of the respondents now utilize the Platform-Derivative-Extension Model not only as a development methodology but also as a method of portfolio management.

Both of the examples cited above required the implementation of sweeping process and cultural changes not only by development professionals, but also by the general managers that run these companies. There are other equally significant results from the 2000 survey, but these two examples are enough to draw the conclusion that two widely used R&D management cultures now exist in industry. We can refer to *traditional R&D management* companies and *new age R&D management* companies. New age companies use more structured, analytical and measurable processes and techniques.

Opportunities Remain

Traditional R&D management companies should be on alert. Historically, it is fairly well documented that first-quartile companies are often 10-30 years ahead of last-quartile companies in their adoption practices. Fast-followers wait for the bleeding and leading edge companies to show results; then they follow. Third-quartile companies wait until practices mature and have been reduced to software (or systems) before they adopt them. Last-quartile companies wait until all the

bugs are out and prices drop before adopting. This basic cadence will never change, but the 10-30 year adoption period should be a concern to more traditional firms.

With the step-function leaps in technological revolutions in the past twenty years, coupled with the significantly decreasing product life cycles of the past decade, a 10-30 year adoption period will represent many more product creation cycles than it has in the past. More so than in the past, greater distance will be created between industry leaders and followers, within any given time period. The distance between the leaders and the followers will tend to become greater and greater and will possibly drive the followers out of business. A good analogy would be the Japanese automotive companies that lead the automotive industry in adopting new practices. US automotive companies were slow to adopt and one could argue that most will never catch up. As well, Cincinnati Milacron is now the sole US survivor in the top ten worldwide machine tool companies. In the early 1980s, US-based companies held eight or nine of the top ten positions world-wide. German and Japanese companies reset the performance bar in the 1970s and US companies were confident of their positions and comfortable with their rates of cultural change.

While new age R&D Management companies are actively trying to reset the bar, progress appears to be uneven in three areas. First, companies need to become as inventive with their processes and measures as they try to be with their products. Most of the new age process and portfolio management techniques have been adopted from the same few sources. While the basic phased process structure may be a viable cross-industry solution, it is being adopted with little imagination. Too many companies seem to be benchmarking their way to processes and measurements rather than understanding the principles and values of new age management science and adapting it to their companies. Popular R&D measures used by industry illustrate the point. The survey results indicate that there is only one new measure that has become widespread in the past fifteen years; the other widely-employed measures have existed since the 1920s. Secondly, companies need to increase their analytical hygiene and attention to detail. It was surprising that only 68% of companies tracked product life cycles. It was also surprising that only 19% of companies had active retirement and/or obsolescence policies. Thirdly, and perhaps most importantly, GGI's survey analysts did not get the feeling that R&D investments were being selected based on their alignment to company business strategy. As technological revolutions increase and product life cycles decrease it will be vitally important to achieve real linkage between R&D investment and dynamically changing business strategy.^P_D

For more information on the GGI 2000 Metrics Survey, to obtain a copy of the 2000 Executive Summary, or to participate in the 2002 survey, please contact Anne Schwartz at 781-444-5400 or ars@goldensegroupinc.com. Or see GGI's website at www.goldensegroupinc.com for additional information.

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