

Developing Successful Products Efficiently

Front-end selection decisions reduce the number of product ideas to be fully developed, resulting in faster time-to-market.

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In the face of tightened development budgets and increased global competition, companies struggle with more pressure to develop successful products efficiently. Goldense Group, Inc. (GGI) conducted a study in 2002 about the effects of these pressures on product development processes. Every two years GGI surveys the industry to assess advancements in research and development (R&D) practices and metrics. The 2002 Product Development Metrics Survey focused on R&D capacity management; the main objective was to assess the maturity of product selection processes and investigate how companies are loading their R&D capacity pipeline.

Survey results showed that 80 percent of companies are now using a formal 2.5-step or 2-step product selection process, compared with only 63 percent in 2000 (see Figures 1 and 2). This increase in rigor demonstrated the maturation of these selection processes in industry. The findings agreed with those reported in the *Journal of Product Innovation Management* in 1997, "only 55 percent of firms bother to screen new product concepts." Using these more rigorous selection practices also is penetrating smaller firms (those with sales revenues of \$250M or less), based on the fact that the 2002 survey included a greater percentage (61 percent) of smaller firms than the 2000 survey (53 percent).

The product selection process is used to evaluate new product ideas before launching into full development. The 2-step process includes the first decision point, which launches the product definition phase (technical and marketing feasibility studies, program plans, etc.) and the second decision point, which launches full-scale development. The 2.5-step process adds a preliminary concept review to the front-end.

Increased scrutiny at the front-end of the new product development process results in fewer ideas through the funnel and into development. For example, companies that use a 2-step or 2.5-step selection process, on average, get only 29 percent of their product concepts approved for development (see Figure 3, page 16). Companies that have a 1-step or no-step process send 78 percent of their ideas through to development (see Figure 4, page 16). These latter companies are overloading their development staffs more than two times over their more judicious counterparts. They also are more likely to ship junk out the door, only to fail in the marketplace.

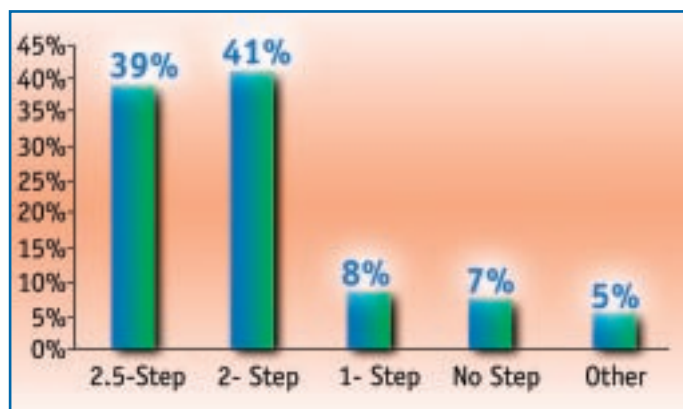


Figure 1 Use of product selection processes in 2002.

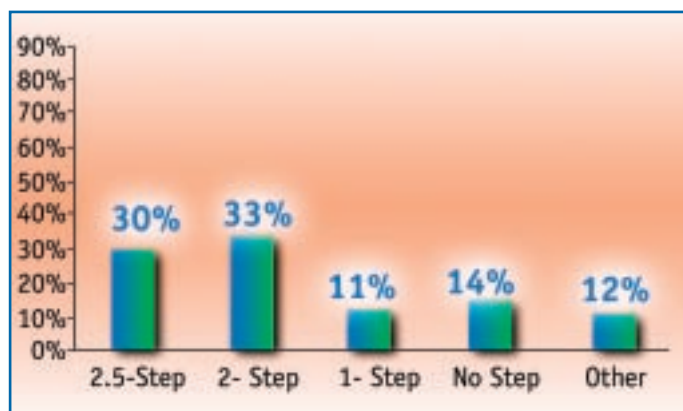


Figure 2 Use of product selection processes in 2000.

Figures courtesy of GGI.

Product failures cost significant amounts of money, time and cause credibility loss with customers.

Survey Specifics

The 2002 Product Development Metrics Survey was conducted by sending questionnaires to a wide distribution of product development professionals in industry throughout North America, Europe and Asia. Replies were received from eighty-three companies, ranging from industrial and medical products to aerospace, defense, electronics and chemicals industries. Respondents were asked to provide information on the number of steps in their product selection process. They also were asked to determine the number of products or projects screened at each step of the selection process, in order to calculate the aggregate approval rate of selection. The 2002 survey was completed by respondents during July, August and early September 2002.

Product failures cost significant amounts of money, time and cause credibility loss with customers. "In today's dollars, Federal Express lost \$294 million on Zap Mail, NeXT lost \$250 million on its computer workstation, GM lost \$420 million on the Wankel Rotary Engine, DuPont lost more than \$1 billion on Corfam and Ford lost more than \$2 billion on the Edsel," reports *The Chief Executive* in the August/September 2002 issue. Various studies estimate new product failure rates from 30 percent to as high as 90 percent, with little to no improvement throughout the past few decades.

With such a significant investment as well as the overall success of a company at stake, we would expect to see more companies trying to boost product success. Many might be tempted to play the numbers game and get as many products out in the market to try to increase the number of successful products. This approach, however, would likely only drive up the new product failure rate. Products may be less likely to succeed because the development projects will have to share the same limited resources. Instead, companies should focus on fewer product ideas to spend their resources wisely on the most promising potential new products.

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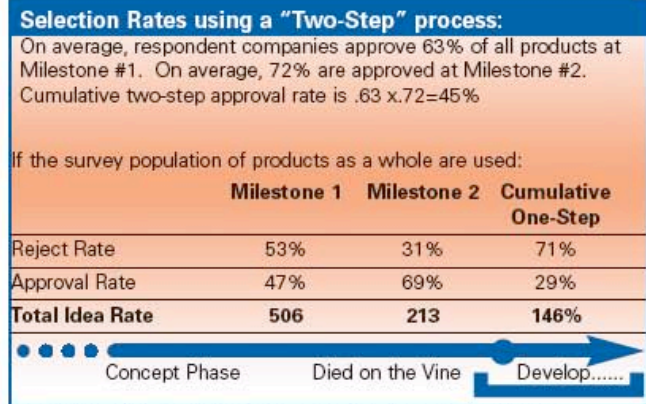


Figure 3 Product Idea Approval Rate for 2-Step Selection Process Companies

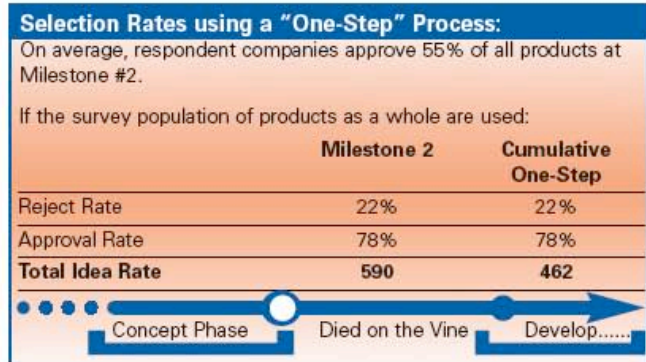


Figure 4 Product Idea Approval Rate for 1-Step Selection Process Companies

Increased formality and apparent maturation of product/project selection processes leads to more efficiency in the development function.

The upfront scrutiny of project ideas results in greater downstream efficiency. The development function is typically overloaded 150 to 200 percent, mainly because there are too many projects flowing down to them. Less overloading of the development function will reduce project delays and cost overruns. The better the quality of the ideas into the process, the better the quality of the products coming out to the market. Thus, it is expected that some improvement in product success rates will follow.

Research shows that the increased formality and apparent maturation of product/project selection processes leads to more efficiency in the development function. Front-end selection decisions reduce the number of product ideas to be fully developed, resulting in faster time-to-market. Weeding out weaker ideas early on will drive up new product success rates in the years to come.

TCT

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