

# PRODUCT DEVELOPMENT

## BEST PRACTICES REPORT

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### 2002 RD&E STUDY INDICATES RESOURCE & CAPACITY MANAGEMENT PRACTICES ARE IMPROVING

It is important to distinguish between the terms “Resource Management” and “Capacity Management.” Resource Management assumes infinite capacity. Capacity Management assumes finite capacity. When systems that support R&D and product development management activities mature over the next two decades, to approach the maturity levels of some ERP systems today, Capacity Management may become possible and even practical in R&D. Until easy-to-use, shrink-wrapped software becomes available, only a few companies will make the effort necessary to truly manage within capacity. For the moment, except for a very few number of companies who have built their own software, practices are confined to the realm of Resource Management.

During the 1990s, several studies, including GGI’s, have shown that “WIP” and “active backlog” in product development organizations typically ranges from 150% to 300% of capacity. While “portfolio management” and the resultant “pipeline management” practices are improving, they do not yet result in Capacity Management only Resource Management. As a result, WIP and active backlog in most companies today still ranges from 150% to 300% of capacity. Gaining control of capacity is the largest single improvement activity available to managers today – just as proper Voice-Of-The-Customer (VOC) and requirements definition is the largest single improvement activity available to developers. These two practices, one in the realm of managers and the other in the realm of developers, cause the vast majority of variation that occurs in individual project investments/outcomes relating to schedule, product cost, development cost, and the resultant gross margin.

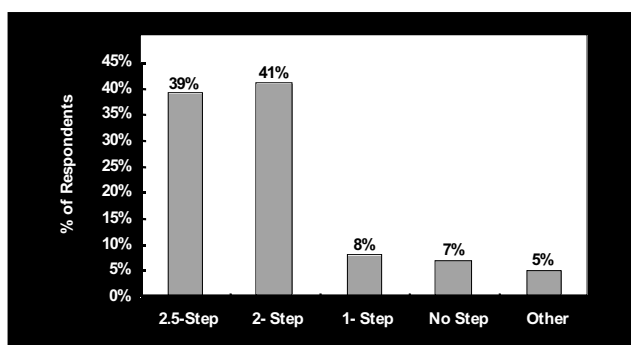
Traditionally, companies used a “One-Step” process to select the products that entered the product development pipeline. Estimates were prepared and a single formal decision point resulted in

the approval or disapproval of proposed projects/products. During the 1990s, after leading-edge companies increased their investment in VOC and requirements definition activities, and realized better project/product outcomes, the management process used by many companies to select projects changed to at least a “Two-Step” process in order to formalize the “definition phase” of proposed investments. GGI’s 2002 RD&E Resource & Capacity Management Practices Survey shows that most companies today perform their product selection activities using at least a Two-Step process [Figure 1].

GGI’s 2002 Survey then explored the differences in outcomes between selection processes that used

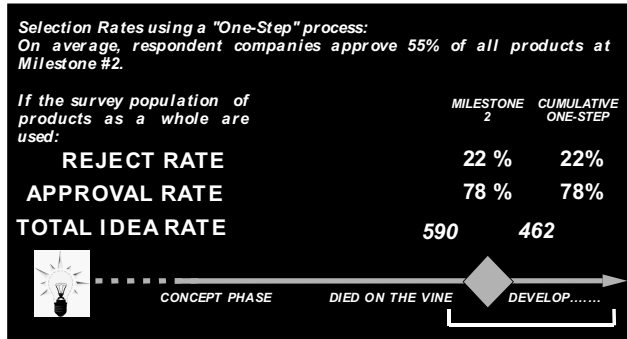
“one step” and those that used “two or more” steps. The differences are significant. Companies that use a “1-Step” selection process typically approve 55% of all projects/products that are proposed for development. Companies that use “2 or 2.5-Steps,” typically approve 45% of all

**Figure 1: Types Of Selection Processes In Use**



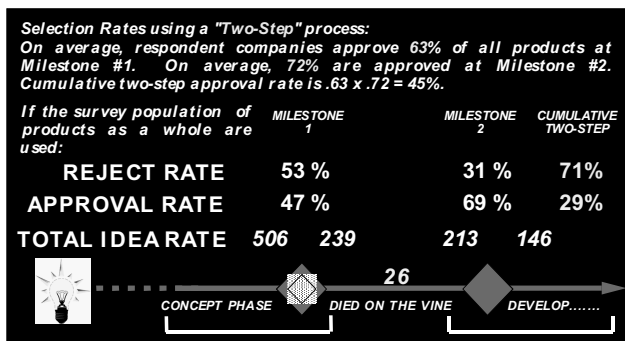
**SOURCE: GGI**

**Figure 2: Loading the RD&E Pipeline - One Step Process**



SOURCE: GGI

**Figure 3: Loading the RD&E Pipeline - Two Step Process**



SOURCE: GGI

projects/products that are proposed for development. The difference – approximately 18% fewer for multi-step product selection processes – results in less overload on product development organizations.

Our researchers then analyzed the data between these two groups using a different method. We removed the “companies” from the analysis; that is, we combined, into a single group, all of the projects/products for those firms that reported having a “1-Step” selection process, and compared this group to a similar group created by combining all projects/products for those firms reporting a “2 or 2.5-Step” process. We then compared the two groups with respect to the rate at which “individual projects/products get approved.” Companies that use a “1-Step” selection process typically approve 78% of all projects/products that are proposed for development. Companies that use “2 or 2.5-Steps,” typically approve 29% of all projects/products that are proposed for development. The difference, approximately 49% fewer for multi-step product selection processes, results in significantly less overload on product development organizations.

It’s important to note that we did not find any companies that reverted back to single-step processes once they began using the more

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complicated multi-step processes. While the survey did not specifically explore the success rates in the marketplace of projects/products in one group as compared with the other, our researchers strongly believe that multi-step selection processes are not only improving resource and capacity management practices but are also leading to reduced variability in the outcomes of specific project/product investments.<sup>P</sup>

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