

# Column

*As any manager knows, ensuring that resources are properly targeted and eliminating wastage are central to the profitability of an organization. By concentrating resources, both fiscal and personnel, more effectively and by properly considering the utilization of personnel, results can improve. This column addresses those topics and provides some startling statistics on the improvements that are possible.*

## High-Return Product Development Initiatives

Society of Concurrent Engineering

A good portion of concurrent engineering efforts today are targeted towards improving product definition and accelerating the pace of projects and product teams. These areas are certainly in the top of the list, but there are several other major topics that also need to be part of a successful overall equation. Two will be discussed briefly. One focuses on the very front-end of the process, and the other focuses at the back-end of the process. Both have high returns.

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### Product Selection

The success rates for new products is abysmal. Too many poor ideas consume valuable development resources. Even the most brilliant team cannot make them successful. Studies from Booz-Allen, Arthur D. Little, Time-To-Market Associates, and others — as published in Business Week<sup>1</sup> — indicate that 30-50% of new products

fail. Potentially half of annual development capacity is wasted and most of it is avoidable. Studies in the consumer products sector indicate failure rates as high as 90%. It is not so hard to believe. Think of start-up companies along “Route 128” — the “high tech highway” that loops around Boston, characterized by an ever-changing series of short-lived, start-up companies. The average company launches several products and is out of business in six years. Company failure rates are high, product failure rates are higher.

If companies could cut failure rates in half, revenues from new products would increase greatly. Assuming a typical company with a 30% failure rate cut it to 15%, the overall output would increase by 15/70 or 21%. A twenty-one percent increase in revenues is significant and worth trying for. Yet, little rigor is put into the product selection process at most companies. Many companies simply sit down once per year at the annual budgeting cycle to select products during the budgeting exercise.

Best practices in the 1990s for product selection include a two-step process, and sometimes a three-step process. The final step is the milestone that most companies today call “development approval.” Prior to development approval are the additional milestones/decision points of Concept Approval and, in the case of

the three-step process, Pre-Concept Approval. Another best practice involves a continuous process of product selection that runs independently of the annual R&D budget process. The R&D process becomes an annual summary mechanism at a point in time and is not the do-all-end-all process for product identification and selection. Best practices also include a cross-functional team of managers that together manage the two-/three-step selection process, just like cross-functional teams for product development processes except one to two levels higher in the organization.

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### Capacity Management

The art of managing capacity in cross-functional new product development is still in the early stages. The art of managing engineering-only product

development never really took off either. Chaos has been allowed to exist in order to breed creativity — a bit heretical perhaps. Machines on the manufacturing floor can easily be understood to have a “capacity.” The concept is also well understood in assembly work. People can only do so much in a given eight-hour shift. It has been the science of industrial engineering for decades. Somehow though, the number of products/projects that a group of people can tackle at one time has escaped measurement.

With the emerging ability to integrate networked project scheduling, time-tracking, and database technology a company can now create its own “Manufacturing Execution System for Product Development.” It could be called a “Product Development Execution System,” or PDES.

This capability allows resource drains such as sustaining engineering and specials to be quantified and managed more effectively. Most companies have 30-50% of capacity dedicated to sustaining engineering and/or specials. The numbers are just about the same as the product selection discussion outlined earlier. If companies could cut sustaining engineering in half, then revenues from product development could also increase by 21%.

### **Summary**

The analogy between both revenue enhancement opportunities is great. Both are outside the realm that teams can influence. Both require senior management direction and involvement. Both lie deeply embedded in the social and political structures of most companies.

### **References**

1. “Flops” (cover story), *Business Week*, 16 August 1993, pp. 76-82.

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