



# Making Product Development More Innovative

**F**or at least the past 10 years, innovation has been the mantra of western companies. To get that innovation, corporations have often appended and/or pulled activities out of their product-development process (PDP) rather than build innovation into their process. There are numerous examples.

Some companies have added phases to the front of their processes for brainstorming and/or feasibility investigations. Others assessed their personnel for innovativeness, and then sent the needy folks to training. Many beefed up their research and advanced development organizations (MACHINE DESIGN, July 17, 2014) in hopes of generating more innovative ideas and technologies for their PDP. Yet others simply added words like “innovation” or “invention” to rename their PDP, thinking that different branding will yield different results. Most are still not satisfied with how much they’ve improved over the past decade. Too many believe they have been in decline.

Why not place more emphasis on improving the innovativeness of the product-development process itself? There are recent corporate precedents for what can be done. The Lean and DFSS initiatives, for example, resulted in several additional activities being added into company PDPs. Do the same for innovation activities.

Two tactics can be used to beef up the innovativeness of a company’s PDP. First, companies should add innovation activities at appropriate places in their PDP. Second, companies should emphasize existing activities that spur appreciable innovative thinking.

For the past five years plus, a number of innovation-boosting tools have hit the market (MACHINE DESIGN, Aug. 15, 2013). They range from soft tools to quantitative and algorithmic tools. There are tools for management, groups, teams, and individuals. There are also tools that bring additional focus to challenges at hand, while others purposely drive people to blue-sky thinking. Eventually, innovation enablers for every type of big and small innovation challenge will be on the market.

Why not require the use of selected innovation tools

at specified points in PDP? For example, consider identifying three tools spanning incremental to breakthrough innovations. Require one of them be used at key points in the concept, definition, and design phases; chosen by the nature of the product being developed.

The second opportunity is that some deterministic tools spur more innovative thinking than others. In research involving 200 companies, developers got a list of 20 activities common in most corporate PDPs. The list included “cost estimating,” “scheduling,” “risk analysis,” and “ROI calculations.” Respondents that used the activity were then asked to estimate how well that activity generated innovative results and/or intellectual property.

There were three winning activities and three honorable mentions. Requirements definition, product specifications, and technical feasibility analysis scored the highest innovation benefits. Concepting/concept engineering, voice-of-the-customer, and market definition were close behind. Target costing and intellectual property valuation also scored highly, but were not frequently a required PDP activity.

When teams get together and management conducts reviews, it would seem to be relatively easy to slightly deemphasize command and control discussions while reallocating the time to fully discuss deterministic activities with higher innovation content.

In manufacturing, capability is often defined as “equipment output assisted by people.” In design and engineering, capability is “people output assisted by equipment.” Companies that want more innovative output must actively manage what is in and on their employees’ minds. **md**

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