ROLES & RESPONSIBILITIES

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The area of Roles & Responsibilities is one of the most challenging subjects to tackle in the implementation of an accelerated product development environment. This is the point where the rubber meets the road. Defining what to do, when to do it, and which function or who does it is critical to achieving a fast process and reduced time-to-market.

The functions and/or individuals that must work in parallel differ with respect to the types of products being developed, and to the customer's level of direct interaction in using a given product. In most companies specific roles must be defined for marketing/product planning, applications engineering/support, manufacturing engineering, test development engineering, quality/reliability engineering, field service, purchasing, and key suppliers. It is probably also safe to include customer involvement as mandatory, although customer roles differ greatly in level of involvement and duration of involvement across products and industries. For defense contractors and other custom developers, the customer involvement is king. For all practical purposes, the word "custom" is short for "customer." For market makers, the relationship with customers is more abstract and possibly secretive during definition and development. And then, there are several categories of practices in between.

Many companies have found it highly useful to define functional and/or individual roles to a high level of granularity, specific tasks. These usually comprise the rows of a matrix and are grouped by function. The columns of the matrix are the key milestones during the process, both team-level and executive-level milestones are included. The columns/milestones are usually chronologically listed across the top of the page and are grouped together in major columns representing the major Phases of the development process. Yes, this "page" can get very big. It may require up to two D-size drawings.

If the "Phase-Milestone Diagram" is the "roadmap" that most companies now manage product development by, then this "Concurrency Matrix" constitutes the "detailed directions" to get to the destination. The columns of the Concurrency Matrix embody all the elements of the Phase-Milestone Diagram and also include Team-Owned milestones. The rows of the matrix define the specific "Roles & Responsibilities" of each function on the team.

As with any methodology, it is applied differently by different companies. Some companies treat it as the " standard process definition by which all projects are planned/estimated and then tracked. Did each function do what it was supposed to do, when it was supposed to do it? Other companies develop it uniquely for each project as a team start-up exercise. In my opinion, the smartest companies have it as the standardized company-wide definition of the product development process. They then tailor it to the unique needs of each project/product through a team start-up exercise during the definition/planning phase of a product, prior to formal development approval.

All that is good news, the emergence of a consistent way of documenting a product development process in industry. The big catch however is the much more challenging task of determining exactly "who does what when" within the Concurrency Matrix. All other things being equal, such as having the right CAD/CAE/CAM tools and qualified personnel in each functional area, accelerated environments are achieved when a company correctly defines the Roles & Responsibilities associated with who does what when.

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