

T. H. E. Solution LLC

Taming the development of intelligent products

Taking Aim On The Product Development Chain

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What is the appropriate application of people, process and tools to your development chain? It depends, on your company's culture, on your products, on your competitors, and on the technologies employed. This may seem a daunting task, but in spite of this, guiding principles can be outlined. The most important resource is people. Then comes process and tools that support the people.

PEOPLE RESOURCES

The most important business resource is COMPETENT people. This includes three totally different kinds of competency: subject, people and action.

Subject competency is often not just the obvious (e.g. a design Electrical Engineer knows how to create a circuit diagram using a schematic capture tool) but knowledge on a larger scope. For instance, engineers should know the primary technologies in your product and what is bleeding edge, cutting edge and safe.

All employees need at least the "base level" people competency, the ability to work with others on a regular basis. However, most need significantly more than this. Leadership skills can become important well before a management title is slipped on a person.

The third competency is often overlooked but in many situations (especially the typically tight as a drum product development chain) may be the most important. Action competency is the ability to complete complex tasks without supervision.

PROCESS RESOURCES

Process is nothing more than the definition of what steps to take when undertaking a particular activity. When done correctly, a process model is the formalization of good practices. The key principles for a product development chain process model are outlined below:

1. Forces the regular interaction between the primary stakeholders.
2. Facilitates the early detection and correction of problems.
3. Covers the ENTIRE lifecycle.
4. Supports operation in different modes: from internal resources only at a single site to a mix of internal and external resources with distributed locations.
5. Is not tied to a specific method or methodology.
6. Is scalable to cover all your current and expected developments.
7. Emphasizes who and why, not just what and how.

TOOL RESOURCES

Tools are relevant only if they support the people and process. The obvious tools are those necessary to accomplish technical development, CAD, schematic entry, and programming language etc. All aspects of the product development process need to be examined. Here are some guidelines to follow:

1. Tools should be used to eliminate repetitive, mindless tasks.
2. They should scale to cover all the likely modes of operation.
3. They should provide the means to streamline the process.
4. Key tool areas beyond the purely technical include:
 - a. Collaboration
 - b. Tracking (problems, requests etc.)
 - c. Document management
 - d. Information retrieval
 - e. Formal testing