Module 7 Assignment

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The following questions are addressed considering the main points from the article on interweaving testing and evaluation (T&E) in systems engineering (SE).

# If you were an acquisition PM, what could you do to implement some of those concepts?

The number one decision that can be made as an acquisition PM regarding T&E is to move it as far to the left as budget and resource constraints will allow. Starting early pays rich rewards throughout the project. But getting necessary resource allocation often requires managing up the chain of command. Existing corporate culture as well as pervasive attitudes within the engineering community often sees T&E as an activity better left to the end of a project. A PM’s ability to implement some of the concepts outlined in the article is often predicated on his ability to successfully lobby for the time and resources that they require. Furthermore, effective implementation may require the intestinal fortitude to put some of your best and brightest engineers on T&E, an activity traditionally reserved for the “second string players.” As argued in the 1996 Fast Company article, establishment of balanced teams of Development and T&E is the right way to go[[1]](#footnote-1).

# What would be the potential benefits?

Potential benefits to interweaving T&E into the systems engineering process are numerous. Overall, development milestones and production deadlines are met more frequently, customer satisfaction is higher, development costs are reduced, and management has the information required to make critical decisions about a project or program. More specifically, during the requirements analysis phase T&E, “can assist in generating meaningful requirements that are measurable, objective, based in an operational mission context, correctly prioritized, and are traceable from JCIDS.[[2]](#footnote-2)” Data from systems analysis helps T&E support Early Operational Assessments and later Operational Assessments during the System Development and Demonstration acquisition phase. The contributions of T&E to validation and verification are, possibly, more obvious. “T&E supports verifying that the system requirements are being properly interpreted and allocated during the design processes, verifying that the output of the process meets those requirements, and providing feedback to managers as well as the next iteration of the systems engineering process.[[3]](#footnote-3)”

# What might be some potential problems?

Hurdles to overcome in implementing T&E more thoroughly into the systems engineering process include overcoming resistance due to entrenched business culture, managing expectations due to front loading project timelines, and properly managing the allocation of resources across the engineering effort. Probably the biggest SE management problem cuts across all three of these and involves convincing leadership that you require the necessary additional money and resources to properly staff a fully integrated T&E effort that begins in lock step with the commencement of the project and continues all the way through its full lifecycle.

# Is there anything that you would not do?

I would like to think that in the pursuit of better product, process, and results, there is nothing that I would not try.

1. Fishman, Charles, “They Write the Right Stuff,” Fast Company, 1996. [↑](#footnote-ref-1)
2. Tribble, Josh, “Interweaving Test and Evaluation Throughout the Systems Engineering Process,” NDIA, 2005., pp 9. [↑](#footnote-ref-2)
3. Ibid., pp 11. [↑](#footnote-ref-3)